

[PROVISIONALLY REGISTERED.]

GREAT WHEEL BUSY UNITED MINING COMPANY (LIMITED), KENWYN, CORNWALL.

In 6000 shares of £10 each, with power to increase. Deposit 50s. per share, and the remainder by calls of 25s. per share, at intervals of not less than six months.

To be worked under the "LIMITED LIABILITY ACT."

DIRECTORS.
GUSTAVUS EDWARD BECKERS, Esq., Warwick-road, Maida-hill, London.
STEPHEN BROAD, Esq., Peckham Rye, London.
JAMES COBBETT, Esq., Deptford, Kent.
RICHARD HUMPHREYS, Esq., 72, Wimpole-street, Cavendish-square.
RICHARD HALL, Esq., Woodford, Essex.
ROBERT OFFORD, Esq., 53, Wigmore-street, Cavendish-square.
JOHN OFFORD, Esq., 4, Auburn-street, Plymouth.
C. R. READ, Esq., 93, Gloucester-terrace, Hyde-park.

With power to increase.

BANKERS—Messrs. Martin and Co., 68, Lombard-street.
BROKERS—Joseph Davis, Esq., 75, Old Broad-street.
SOLICITORS—Messrs. Wire and Child, 9, St. Swithin's-lane, City.
ENGINEERS—Slims and Sons, Redruth.

OFFICES—47, OLD BROAD STREET, LONDON.

PROSPECTUS OF GREAT WHEEL BUSY UNITED MINES.

Embracing Wheel Busy, Wheel Daniel, South Hallenbeagle, Old Hallenbeagle, North or New Hallenbeagle Mines, and an area of ground one and a half mile long by one mile wide situated in Kenwyn, Cornwall (dues, 1-34th; term 31 years), and abutting on Wheal Unity, Poldice, the Great Consols, and the United Mines on the north, and Treaskerby and North Downs on the west.

These mines contain upwards of 20 copper and tin lodes, and have paid immense profits to the adventurers. There is an adit brought into the sett from 40 to 50 fms. deep from surface, and there are engine and other shafts sunk to a depth in Wheal Busy of 100 fms. below the adit, at Old and New Hallenbeagle to the 60 and 70 fms. levels, and in Wheal Daniel to about the 40 fms. level. The lodes are also driven on in the 10, 20, 30, 40, 50, and 60 fms. levels in the Hallenbeagle Mines, and in Wheal Busy the levels are extended to the 100 fms. level below the adit. These mines possess rich copper and tin lodes when the operations ceased, for particulars of which see the reports of the several mine agents.

Gentlemen conversant with mining matters will see that these mines, comparatively speaking, are in their infancy. Some thousands of pounds sterling have been expended in introductory works, in bringing in the adits, sinking shafts, and driving levels on the lodes, as stated above, through strata of mineral ground not surpassed in any mines in the world. It only remains to draw out the water, which can be effected in a few months, that the rich courses of copper and tin ores, left when last these mines were wrought, may at once be raised to the surface, and immediate and handsome returns will be made.

It is the united opinion of persons competent to speak on these mines, that when they shall have been set to work, the immense profits that will accrue therefrom will place them in a position second to none in the county of Cornwall, or elsewhere.

In the report of the late engineer of the above mines, he states that the water drawn from Wheal Busy, on an average for 12 months, was 478 gallons per minute; and that an 85-inch engine will be ample not only to drain the mine, but will be sufficient to prosecute it to a much greater depth; and that two 70-inch engines, one on the old and the other on the new Hallenbeagle, will be sufficient for every purpose.

It is thought that much less than £50,000 will be ample to put up all proper machinery, drain the mines to the bottom, and render them dividend-paying; and that when so done, they will pay 30 per cent. on the capital required. It may be considered, therefore, that there is no speculation in the concern, but a pure investment of capital; for it will be seen, from the several reports given by the mine agents, that there is upwards of £300,000 worth of copper and tin ores already discovered in the mines, to take away.

The operations in Wheal Busy commenced in 1810, and ceased in 1828, during which time the lode received as dues, at a 20th dish, £17,192 19s. 6d., notwithstanding the very inefficient way in which the operations were carried on, and the low standard of copper and tin, being more than 20 per cent. less than the present price.

There were raised and sold from Wheal Busy alone the last 14 months the engine was at work 5311 tons of copper ore, which realised £31,170 5s. 2d. The return of tin ore was one ton of tin to every 20 tons of copper ore; making the returns of tin 265 tons, at £40 per ton, realising £10,600. And the first 12 months after the engine ceased working there were sold from Wheal Busy alone 2848 tons of copper ore, which realised £10,731 4s. 6d.; making the returns of tin 142 tons, at £40 per ton, £5680. This does not show any want of ores.

The West Cornwall railway runs through the sett from east to west. The mines are within four miles of Port Trecat and six miles of Devon, and connected with both sea ports by a tram-road, which runs through the sett.

The inducement to work these shallow mines is the improvement in machinery of all descriptions, the high standard of copper and tin, and last, though not the least, the great economy and science displayed in all mining operations in the present day over the time when these mines last worked.

In the last working of Wheal Busy the adventurers paid 30s. per 100 kibbles to raise the stuff to surface; the engineer above referred to states the same quantity of stuff he would now engage to raise to the surface for 2s. 6d. They also paid 9s. per 100 kibbles for filling and for dressing, and per ton for the cost of the engine. It is great that thousands of tons of copper and tin ores are now broken and lying underground in the excavation in the mine, which can be raised to the surface and made marketable for less than one-half the present worth.

Capt. Johns says—"There are hundreds of thousands of tons of copper and tin ores on Wheal Busy already broken, nothing to do but send up and dress; and that there are immense quantities of copper and tin ores already discovered, and now standing in sight on the mine to take away; and when the mines are put in good course of working, they will be second to none in Cornwall."

Capt. Skewes, of New Hallenbeagle, says—"There are two courses of copper ores in the back and bottom of the 60 fathom level, east of shaft 20 fms. long, which will let at 2s. 6d. and 6s. in £1, and that there is a course of copper ore in the bottom of the 60 fms. level, west of shaft on the same 50 fms. long, which will produce 4 tons per fm. worth 11s. per cent., and will let at 1s. in £1, when dry. Capt. Paul Baby, of the Wheal Seton, says the mine: they had 55 pitches working when the mine stopped, at tributes from 2s. 6d. to 13s. 4d."

Capt. Stephen Leach, of Wheal Seton, examined New Hallenbeagle several times; he says—"There is a course of copper ore in the bottom of the 60 fms. level 45 fms. long, producing 4 tons per fathom, worth £12 per ton; and there are two other courses of copper ore east of the same shaft, in the 60 fms. level, each 20 fms. long, and will let at 2s. in £1."

Mr. Rosewell says—"There is a course of copper ores in South Hallenbeagle, on Reid's lode, in the 40 fms. level, 10 fms. long, worth £30 per fm.; and in the 30 fms. level, on the same lode, there is a course of ores for 60 fms. long, producing 1½ ton per fm., worth £9 per ton—worth £13 10s. per fm.; the ground can be worked at 60s. per fm.; and there is a course of copper ores in the bottom of the 30, on Out's lode, for 60 fms. long, will produce 1½ ton per fm., worth £11 per fm.; and the 30 fms. ground can be worked for 60s. per fm.; and the lodes in the Old Hallenbeagle, under south, and the lodes in South Hallenbeagle north; they will join in the 110, where the ore will be immense."

Mr. James Nichol says—"There is enough copper and tin stuff broken in Wheal Busy to pay for the erection of all proper machinery; and there is a course of ores in the 90: 12 men can raise 100 tons per month."

Mr. Richard Nichol says—"He worked in Wheal Busy when the mine stopped working; that the ores were abundant throughout the mine; and in the 60, in the western part for the mine, a rich lode was cut in the side; six men raised 10 tons of ore, which realised £5 per ton, at 105 standard; and that the same lode was cut in the 60, east of Cheynoweth's shaft, where the ores were of an extraordinary size and quality; that Ralph Blight, &c., worked on it until the water rose up and drove them."

Capt. William Martin, Stithians, the greatest mining authority in Cornwall, says—"He examined the above mine in 1827 several times, and he examined Wheal Busy three weeks before she ceased working. There is enough copper and tin ores already broken in Wheal Busy to pay the expenses of the mine for years; and that there are several courses of copper ore worth from £20 to £24 per fm.; and that there is a course of copper ores in Old Hallenbeagle Mine, in the 60, 50 fms. long, worth £22 per fm. The ore is so immense in these mines that they will pay at least £24,000 per annum profits, and that for 20 years."

The object of the company is to effectually work these mines. More than one-half of the shares are already taken, and the remaining shares will be placed into good hands. Applications for the same may be made either to the broker in London, or to the manager, Mr. J. B. Pascoe, of Camborne, Cornwall.

FORM OF APPLICATION FOR SHARES.

To the Directors of Great Wheel Busy United Mining Company (Limited).
 GENTLEMEN, I request you will allot me shares in this company; and in consideration thereof, I herewith send the deposit or first call, as named in the prospectus, and will sign the Deed of Settlement when called upon so to do.

Date
 Name in full
 Residence
 Place of business
 Name of referee
 Profession

GREEN'S PATENT FUEL ECONOMISER, FOR STEAM-ENGINE BOILERS AND FURNACES.—A NEW METHOD OF HEATING THE FEED WATER by the spare heat from the boiler flues to boiling heat, and a considerable quantity of steam generated before it enters the boilers, thereby effecting a saving of from one-third to one-fourth of the fuel. May be seen at work to several thousand horse-power in the manufacturing districts.—Apply to the patentee, EDWARD GREEN, Phoenix Works, Wakefield.

CLAY PURIFICATION OF GAS.—This process is APPROVED AND ADOPTED by some of the most intelligent GAS ENGINEERS in the kingdom, and their opinions are fully borne out by the investigations of Dr. Letheby and other scientific authorities. It will, no doubt, be employed in nearly every well managed gas-works; and will lead to an enlarged consumption of gas in private houses, from which it is now excluded by a fear of its impurity.—Terms of license, &c., may be obtained of Messrs. HOLMES BROTHERS, Huddersfield, agents to the patentees. In use at the gas-works of Leeds, Preston, Huddersfield, Wakefield, West Riding County Gas Co., &c.

THE CHEAPEST STATIONERY IN THE WORLD.
 at ARTHUR GRANGER'S MANUFACTORY, 308, HIGH HOLBORN, near Chancery-lane. Branches: 10, Fitzroy-terrace, New-road; and 9, Holborn-bars, City, London.

ENGINEERS, MECHANISTS, ARTISTS, BUILDERS, CHEMISTS, MUSICIANS, AND ALL SCIENTIFIC PROFESSIONALS AND AMATEURS, will find at the ROYAL POLYTECHNIC every Novelty, in Peace or War, likely to interest Inventors, Capitalists, or Students. Models on the largest scale; LECTURES by the ablest professors; EXHIBITIONS constantly varied, and most instructive and amusing. Open 12 hours daily.—Admission to the whole, ONE SHILLING. Liberal arrangements entered into with conductors of Railway Excursions, heads of Schools, Factories, and large employers of Skilled Labour; and Special Illustrations given for Operators and Scholars. Inventors and Manufacturers of Unique Articles of Utility or Beauty are invited to judge for themselves of the advantage of having their Designs and Products displayed at the POLYTECHNIC, the most frequented and highly patronised institution of the kind in Europe, and one invariably visited by all persons and celebrities arriving in London. Particulars on application, personally or by letter, to J. H. PARRIS, Esq., Managing Director.

LONDON AND NORTH-WESTERN RAILWAY.—

CONTRACT FOR PERMANENT WAY MATERIALS.—The Directors of the London and North-Western Railway Company are prepared to receive TENDERS for the SUPPLY of the undermentioned MATERIALS:—
 100,000 SLEEPERS. 500 tons FISH PLATES.
 4,000 tons CHAIRS. 275 tons SPIKES.
 120 tons BOLTS and NUTS.

Specifications, with particulars, may be obtained on application to the Permanent Way Office, Railway Station, Stafford.
 Tenders, addressed to the secretary, at this office, to be sent in on or before Wednesday, the 10th October, 1855.
 By order,
 CHAS. EDWD. STEWART, Sec.

Secretary's Office, Euston Station, Sept. 15, 1855.

CALEDONIAN RAILWAY COMPANY.—At the TWENTY-

FIRST HALF-YEARLY GENERAL MEETING of the Caledonian Railway Company, held at the Merchants' Hall, Glasgow, on Tuesday, the 25th day of Sept., 1855.—WM. JOHNSTON, Esq. (Chairman of the Board of Directors), in the chair.
 The advertisement calling the meeting having been read, the common seal of the company was attached to the register of proprietors in presence of the meeting.

The following resolutions were passed:—
 1st. That the report of the directors, together with the balance-sheet and statements of accounts laid before the meeting, be received and adopted; and that dividend be now declared for the half-year ending July 31, 1855, on the preference stock of the company at the rate of £1 10s. per cent. per annum; on the Caledonian Railway 4 per cent. preference half-shares, at the rate of £4 per cent. per annum; on the Caledonian Railway 5 per cent. preference half-shares, at the rate of £5 per cent. per annum; and on the consolidated ordinary stock of the company, at the rate of £3 per cent. per annum, less income tax in each case, and all payable on the 9th day of October next.

2d. That this meeting approves of the spirit of compromise exhibited by the directors in their negotiation for a settlement of the differences with the Edinburgh and Glasgow Railway Company; concurs with the directors in the propriety of continued exertions to bring about a general settlement, so that future competition may be avoided, either with the Edinburgh and Glasgow or with other companies; and concurs also in the propriety of endeavouring to effect a settlement, either by a meeting of deputation from the two boards, or by referring the whole matters in dispute to such arbitration as may be acceptable to all the companies interested.

3d. That William Johnston, Esq., Glasgow, who retires from office at this meeting by rotation, be re-elected one of the directors of the company.

4th. That Alexander McGregor, Esq., Liverpool, who retires from office at this meeting by rotation, be re-elected one of the directors of the company.

5th. That Captain David Marshall, H.E.I.C.S., 10, Royal-terrace, Edinburgh, be elected one of the directors of the company.

6th. That the declaration of forfeiture of the undermentioned shares, of which due notice has been given, be confirmed, and that the directors be empowered to sell, cancel, or otherwise dispose of the same.

7th. First, That the sum of £375,000 be raised under the powers of the Caledonian Railway (plant and station accommodation) Act, 1855, by the creation and issue of 30,000 shares of £12 10s. each, to be called "Caledonian Railway Preference Quarter Shares No. 2," bearing a preferential dividend at the rate of £3 per cent. per annum in perpetuity, in preference to the dividends payable on the existing ordinary shares of the company.

Second, That the first instalment shall be £2 10s. per share upon the said Preference Quarter Shares, and the same shall be payable on such day as the directors may appoint; and the remaining instalments at such periods as may be fixed by the directors, under the provisions of the Caledonian Railway Act, 1855.

Third, That every proprietor of existing ordinary stock of the company, who shall be registered as such on the day when the directors shall fix the period for payment of the first instalment, shall be entitled to one of the said 5 per cent. Preference Quarter Shares in respect of each £100 of stock then standing in his name, provided he shall intimate to the secretary of the company that he accepts the same, and agrees to conform to these resolutions, and shall also pay the first instalment of £2 10s. per quarter share on the day fixed for its payment.

Fourth, That the directors be, and are hereby, empowered to allocate such of the said 5 per cent. Preference Quarter Shares as may not be allotted and accepted as above, or as may otherwise remain undistributed, to such other parties as may apply for the same, and agree to pay the deposit thereon, and conform to the foregoing resolutions.

Fifth, That as soon as the said sum of £375,000 shall have been subscribed, and one-half thereof paid up, the directors be, and are hereby, authorised to borrow on mortgage or bond, under the powers of the said Caledonian Railway (plant and station accommodation) Act 1855; and if paid up, again to borrow any sum or sums of money not exceeding £124,000.

The thanks of the meeting were unanimously voted to the Chairman for his conduct in the chair.—Glasgow, Sept. 25, 1855.

RE A VALLEY RAILWAY, FROM SHREWSBURY TO MINSTERLEY.

[Provisionally Registered.]

Capital £30,000, in shares of £10 each.—Deposit £1 per share.

Under the sanction of the influential parties interested in the district including—

LORD OSSULSTON, M.P.
Sir J. R. KYNASTON, Bart., Hardwick Hall.
The Rev. T. P. MORE, Linley Hall.
HENRY LYSTER, Esq., Rowton Castle.
W. A. NICOLL, Esq., Shrewsbury.
W. A. COTTON, Esq., Bedford.
THOMAS BOYCOTT, Esq., Rudge Hall.
The Rev. C. DEBRY, Pontbury.
The Rev. EDWARD MUCKLESTON, Shrewsbury.

ENGINEER—David Wylie, Esq., Shrewsbury.
BROKERS—Messrs. Henry Tudor and Son, 29, Threadneedle-street, London.
BANKERS—Messrs. Burton, Lloyd, and Co., Shrewsbury.
Messrs. Glyn, Mills, and Co., Lombard-street, London.

SOLICITORS—Messrs. How and Son, Shrewsbury.

This railway is projected with a view, in the first instance, to aid in developing the resources of the extensive and rich mineral district at and near Minsterley, and to afford the accommodation of railway transit to a wide extent of country in the south-western portion of Shropshire, now removed from convenient access to any line.

It is proposed that it shall leave the Shrewsbury and Hereford line about two miles from Shrewsbury, and follow the Valley of the Rea, passing Hook-a-gate, Messrs. Marshall's works at Hanwood, near to the smelting houses at Ponteford, and close to the villages of Pontesbury and Minsterley, terminating at Plox Green, in the township of Minsterley, in the parish of Westbury.

It was at first contemplated to extend the line at once from Minsterley through Worthen, to join the intended Oswestry and Newtown Line at or near Caer Flos. In the parish of Montgomery, following the course indicated by nature up the Valley of the Rea, thus forming the most direct route from Shrewsbury into Central Wales, but it has subsequently been thought better to limit the project, for the present, to a line to Minsterley—requiring, of course, a far less amount of capital than if the line were carried on up to Caer Flos; whilst it is considered advisable to await the formation of the Oswestry and Newtown Railway, and also the result of other projects, which have recently been announced, for making a railway from Walsley to Shrewsbury (possibly adopting a portion of the Rea Valley Line), before any extension of the Rea Valley from Minsterley is determined upon. Should it eventually be carried forward to join the Oswestry and Newtown Line, or should it form a portion of any other scheme for connecting Central Wales with Shrewsbury, it is obvious that a great accession of traffic will be acquired by it, from the convenience it will afford and the impetus it will give to the manufacturing and mining interests of Montgomeryshire, and that it will gain still greater importance, as a connecting link between the rich industrial districts of South Wales and the manufacturing and other busy localities in Lancashire and elsewhere to the north and east of Shrewsbury. There is little doubt but that the intercourse between these two most important portions of the kingdom must eventually be of great magnitude, and a source of immense profit.

The proposed Rea Valley Line will be ten miles in length. It will be projected, in the first instance, as a single line, but at the over-bridges will be made for a double line, and the under ones constructed so as to be extended at the least possible expense. Convenient stations and sidings will be made, where necessary, and land purchased for a double line.

From the nature of the ground, the line will be made at small cost, and the traffic of the district will ensure an ample return to the shareholders. As evidence of these facts, Messrs. Brassey and Field (the eminent contractors) are prepared to enter into an agreement to complete the line ready for opening, including all stations and sidings, for the sum of £2000 per mile (exclusive, however, of the purchase of land, which is not of the best quality, and will, it is expected, be had on moderate terms). They are also willing to take a lease of the line for seven years, at a rental to pay the shareholders 4 per cent., and to accept payment for a large portion of the contract in shares.

In regard to the traffic of the line, the minerals alone must be productive of very great profit. In the neighbourhood of Minsterley there are numerous mines in operation, producing, in round numbers, 5000 tons of smelted lead, or about one-tenth of the entire produce of Great Britain, annually, and no doubt can exist but this quantity would be very largely increased by the facilities afforded by a railway. The present cost of land carriage to Shrewsbury is four or five times that of railway transit, and besides this great saving in actual expenditure, the value of the saving in time can scarcely be overrated. There is also an extensive coal field adjoining the proposed line, ten miles long, and about one mile wide, producing upwards of 50,000 tons annually, which also may be greatly increased by the advantage of railway carriage. A very large agricultural traffic in live stock, grain, flour, &c., and a great demand for lime and other artificial manures, may be calculated upon. The local population also a busy and a travelling one. Amongst other modes of conveyance, there are upwards of 20 licensed and other conveyances, carrying passengers and goods from Minsterley, Pontesbury, and the adjacent districts, to Shrewsbury and back, each of them twice or thrice a week, and some more; and the Rea Valley district is densely populated with miners, colliers, and artisans of various descriptions, independently of the regular agricultural population.

Several landowners have promised substantial support to the project, and the inhabitants of the district generally are strongly desirous for its accomplishment, and will use their utmost endeavours for that purpose. The promoters desire to accommodate the district in the greatest possible degree, to make the line in the most economical way, to conciliate various interests, and to avoid, as far as possible, all annoyance to landowners through whose property the line may pass. They are strongly impressed with the conviction that the line is one actually called for by the wants of the district, and that it is likely to become a lucrative one; and they, therefore, rely on the legitimate nature of the undertaking, and its intrinsic merits, to ensure its success.

Applications for shares may be addressed to Messrs. How and Son, of Shrewsbury, the solicitors of the company; and to Messrs. HENRY TUDOR and Son, sharebrokers, Stock Exchange, London.

FORM OF APPLICATION FOR SHARES.

To the Provisional Committee of the Rea Valley Railway.

GENTLEMEN, I request you will allot me shares of £10 each in this undertaking, and I agree to pay the deposit on that or any smaller number of shares which may be allotted to me; and I engage also to execute the Subscribers' Agreement and Parliamentary Contract when so required.

Dated the day of , 1855.

Name in full
 Occupation or profession
 Address
 Name and address of referee

DREWSTEIGTON MINING AND LIMESTONE QUARRY, SITUATE IN THE PARISH OF DREWSTEIGTON, IN THE COUNTY OF DEVON.

Established and conducted on the "COST-BOOK PRINCIPLE."
 In 30,000 shares, of 10s. each.—No further calls to be made, or liabilities incurred. A Copy of the Report of the Committee, presented on the 13th inst., may be had at the offices of the company.

Applications for the remaining shares to be addressed to Mr. JAMES PHILLIPS, managing director, 31, Bush-lane, Cannon-street.

MINING INVESTMENT COMPANY (LIMITED).

The nucleus of this company has been formed by a few private gentlemen interested in mines. The idea of its construction originated with the present manager, in order to meet the great difficulties encountered by persons wishing to invest in mineral properties. It is well known that the large profits realised by mining are divided by persons obtaining secret information of discoveries and improvements, and by their agents in town. Cases constantly occur of the same shares being transferred many times in the course of a short period, involving the sacrifice of 20 per cent. of the capital for commission. By this company's arrangements, these sacrifices will be prevented, and the whole of the profit secured to the investor.

The originator of this company has been constantly applied to for advice by many clerical and gentlemen in town and country, and has recommended purchases which have afforded large profits. Being unable to continue so extensive a correspondence, he adopts this plan of meeting their necessities, and those of the numerous other persons similarly circumstanced. It is proposed:—
 1. To purchase shares in dividend mines, or those approaching that position.
 2. To avoid young and speculative mines, however tempting in appearance.
 3. To lend cash for short periods, at 10 per cent., on good shares and safe terms.
 4. To employ trustworthy and competent agents in the mining districts, to keep the directors fully informed of the state and prospects of certain mines by telegraph.
 5. To be prepared at any moment to purchase valuable shares, which are often obtainable at less than the market price, because saving the seller the loss usually attendant on delay in settlement.
 6. To sell shares when excitement has forced the price too high; and to buy when depression has produced the opposite effect.

The company to be formed in accordance with the new "Limited Liability Act." The shares to be 1000, of £100 each. The amount to be paid by two instalments of £50 each, on the 20th October and 1st January next.

The executive to consist of a manager, secretary, four directors, and country agents. The expenses to be kept down to the lowest possible level.
 No mining broker, or share dealer, to be eligible to be on the staff of the company. The meetings for general business and declaration of dividends to be held half-yearly.

The objects of this company having been carried out on a small scale by the projector and his friends, and found to produce 40 per cent. profit, and he having engaged to use his extensive acquaintance with mining affairs for its benefit, in addition to the experience of its directors and agents, there appears no reason why enough of the million sterling of profit annually made from mineral property should not be obtained by this company, so as to pay 20 per cent., and also have a reserve fund.

Mine share purchasers will see that the intention of this company, wisely carried out, will form the long-desired connecting link between them and the mineral resources of this country, and constitute a medium through which their capital can safely and profitably flow. As it is expected that treble the number of shares will be applied for, they will be supplied in rotation. Each application must be accompanied by an order for £1 per share (that being considered the best reference) upon the number requested, addressed to ROBERT OFFORD (Messrs. Offord and Co.), 75, Wells-street, Oxford-street, London.

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THE TRENALT TONTINE.

£10,000, in 200 subscriptions of £50 each.
 On Lives of not less than Seventy Years of Age, on the 1st January, 1855.
 The return of each subscription secured on the death of the nominee.

SIDNEY BEISLY, Esq., 17, Hyde-park-gate South, Kensington Gore.
FRANK WHITTAKER BUSH, Esq., 9, Old-square, Lincoln's Inn.
JAMES E. SAUNDERS, Esq., 7, Lower Thames-street.

BANKERS—London and Westminster Bank.
SOLICITORS—Messrs. Belsay and Pattison, 1, Lincoln's Inn-fields.
LOCAL AGENTS—Messrs. Pattison, White, and Digby, solicitors, Llaneston.

SECRETARY—Perry F. Nares, Esq.

OFFICES—17, BARGE YARD CHAMBERS, BUCKLESDURY.
 (Late the offices of the Devon Great Consols.)

ABSTRACT OF PROSPECTUS.

A Tontine is comprised of small investments for life annuities, with immense benefit of survivorship; and the Tontine Tontine possesses the unique and important feature of providing for the return of the amount of each subscription on the lapse of the life of the nominee.

The estate of this tontine is situate in the parish of Trewen, in the county of Cornwall, and consists of 160 acres of freehold land, embracing the entire village or hamlet of Trewen.

It is proposed to raise the capital in 200 nominations of £50 each, and that the estate shall be held for the benefit of the subscribers as personal estate. Half-shares of £25 each will, however, be received where the two parties subscribing £25 each mutually agree on one life.

On payment of each subscription, a policy of insurance on the life of the nominee will be given to the subscriber.

Each subscription of £50 each, or two of £25 each, must be held upon one life of either sex, of not less than 70 years of age, to be nominated by the subscriber; and upon the fall of any life, the share in the ultimate stake depending thereon will be paid for the benefit of the owners of the continuing shares.

As soon as the lives shall be reduced to one, the entire estate, and all its benefits, will pass into the possession of the survivor of the two, and become his fee-simple; but as the property is capable of being divided into three compact farms, with residence on each, it may be desirable to divide the tontine when the survivors are reduced to three.

From the data given in the detailed prospectus, it is evident that the revenue from the property will become very considerable; and it is therefore proposed, from the proceeds thereof, that interest, at the rate of 5 per cent. per annum, shall be paid yearly on each subscription, during the life of the nominee; and that after providing for the continuing policies, and as the income accumulates, bonuses shall be appropriated from time to time to the continuing survivors. In this way, a subscriber of £50 may receive back his money in a short time, and yet continue to receive his interest on the £50, to hold a policy of insurance for £30, as well as to have his chance of the entire estate.

In case the number of nominations is not subscribed, the money will be returned. Applications for shares to be made to the secretary, solicitors of the company, or local agents, from whom plans of the estate, with prospectuses, may be obtained.

THE AMERICAN MINING CHRONICLE, AND LITH MANUFACTURER'S JOURNAL.

Commenced its Fifth Volume, 1st July, 1855.

The CHRONICLE contains full and correct particulars of the progress and prospects of every Mining and Incorporated Manufacturing Association in the United States of America, the British Provinces, Mexico, and South America, furnished us by our correspondents in the various sections; Reports of Proceedings of Mining Companies, &c.; Notices of New Discoveries in all branches of Metal Manufactures, and in all applications of Science to Mining; the fullest and most authentic Reports of the fluctuations of the Mining Stock and Share Markets, in New York, Boston, Philadelphia, and the other cities in the States where mining stocks are constantly and occasionally dealt in, regularly sent us by reliable correspondents.

The contributors to the MINING CHRONICLE embrace the most eminent scientific geologists, and thoroughly practical miners of America. The editorial treatment is universally acknowledged to be conducted with great ability, and is distinguished for the truth and impartiality of its discussions

Original Correspondent.

IRON CANNON, AND IRON TUBULAR BRIDGES.

Mr. Noad's experiments on chain that had become brittle and useless, and the result of his experiments, in our colliery districts we fasten lengths of the end of the ropes, which, after some service, are less to be depended upon than the ropes themselves. They then require annealing to be made right again, and even ships' cables, which are not so actively used, should still be annealed after a certain time of service, which it is important to determine.

In order to examine the subject briefly, I must begin with the question, what is iron? In these days of progress we may, perhaps, not be aware of what anything is. However, it is generally supposed to be a mass of iron and carbon as the principal ingredients, and its natural state is crystalline. The presence of carbon enables the atoms of iron to slide upon each other when heated, so as to become fluid. The next question is, What is malleable iron? Is it not these same crystallised particles, the carbon driven off by heat in manufacture, more or less able to move on each other in a fluid state, but soft and tenacious, sufficiently so to enable the crystals to be pressed or hammered into their normal form, and assuming more or less a laminated form? The quality of malleable iron depends a good deal on the completeness with which this is effected. Wire may be taken as nearly the perfect of the operation. There is every reason to believe that in the cases of iron it is imperfectly done, and by means of the electrical action, and will more or less regain their crystalline form, with the intensity of this action. Colliery chains are always in motion.

Noad's reasoning, that "annealing changes the form of iron from crystalline to fibrous," is too much to assert to. What is annealing? Annealing I take to be the same process as annealing glass. I suppose it is a softening of the particles as enables them by attraction to give the effect of friction to the broken faces, and the appearance of a laminated form. It is not easy to think that the expansion of a bar of iron would force the crystals back into their laminated or bruised form. However this may be, the effects of crystallisation on Nasmith's cannon were well known by some long before it was concluded. I have seen in such a mass will be too large, and the liability to fracture too great, to allow such a manufacture ever to be depended upon. The compression of hot iron by hammering cannot be beyond the limit which is counteracted by its expansion by heat, and I believe the hammering on iron to be comparatively very superficial. Notwithstanding the weight of Nasmith's hammer, it would have little or no effect on the centre of the mass of iron, but it would cause a vibration, most favourable to crystallisation. If the hammer could be applied to the centre, the crystals would be crushed down, and the iron assume the laminated appearance.

With Mr. Noad most fully in his remarks on tubular bridges. I think it is possible to consider them as permanent structures, and of thin and, therefore, well compressed pieces, they may stand a considerable time, but the effect of vibration in exciting electrical action, and destroying cohesion, if it be slow, will be sure, and must anneal tube bridges *in situ*, to restore their strength.

It is a fancy that after every annealing, iron will lose a little of its original strength, and that to be equal to it, a little compression should, if possible, be given. Hydrostatic compression of a large mass of iron is no faith in whatever. Such compression will be greatest at the centre, and diminish to the circumference; therefore, unequal and unsuitable for use. There may be a reasonable doubt whether a malleable cannon barrel is shot better than a cast one, but it would be less liable to be injured by an enemy's shot; it would last longer, and might be used as good as new, and it would stand an extra call upon its strength with greater safety. For the present I defer any suggestions, and have no doubt of the success of iron guns, so far as making them safe, *Darlington, Sept. 18.*

HENRY CHAYTOR.

AN IMPROVED STEAM-HAMMER.

The extensive circulation of your Journal in the iron manufacturing establishments throughout the country, and the influence you have at all times shown in giving publicity to scientific subjects, induced me to forward you a brief description of my patent improved steam-hammer, and I shall be glad if you can spare room for its notice in your pages.

Attention has for several years been particularly directed to the practice of the steam-hammer, during which time numerous break-downs and accidents of all kinds, together with the effects of wear and tear on the machine, have afforded me the most ample opportunities of devising ideas of my own for avoiding those practical defects and imperfections that have from time to time appeared to me the most objectionable parts of the machine. The general construction and operation of the steam-hammer are now too well understood to render it necessary to give a detailed description. I shall, therefore, allude as briefly as possible to the leading points of the arrangement I have now the pleasure to submit to your notice as a combination of improvements, which I have the satisfaction of stating is now in regular operation, producing the most favourable results.

The hammer-block works in the vertical guides of the main framing in the ordinary way, but instead of placing the steam cylinder upon the top of the main framing, as is usually the case, I fix it between the vertical cheeks, in the framing, close to, and parallel with, the hammer-block, forming a most substantial connection and support to the main standard, and effecting a very important reduction in the absolute height of the machine, which so much increases the lateral stiffness as to render the machine and stays quite unnecessary. In this way the hammer-block is made of any desired length, so as to secure ample length of guiding without increasing the height of the framing. Adjustable guides are provided, to compensate any wearing away of the slides, but the guides are requisite only in extreme cases, owing to the increased length of the hammer-block. The piston-rod works through a stuffing-box in the cylinder cover, and is attached at its upper end to a strong projection on the upper part of the hammer-block, which overhangs the cylinder. In this arrangement it will be observed the piston-rod is relieved of the destructive effects of compression arising from the concussion to the ordinary arrangement, the piston-rod is exposed at every stroke of the hammer, which soon produces extreme brittleness and liability to fracture. The piston is formed of one piece of wrought-iron, made as light as possible, and is fitted with a very light description of packing, which I have found to be very durable. At the lower end of the back of the cylinder is situated the valve-box, from which the steam and exhausting pipes, the latter being connected by a stuffing-box to the upper part of the cylinder. The valve connects the ordinary double screw motion for raising and lowering the hammer, I employ a rack and pinion, which is not only quicker in its action, but much easier to work, and less complicated, than the old method of using a self-acting valve apparatus, I make use of a self-acting valve for working the hammer by hand, which is exceedingly useful; in fact, it is indispensable to a perfect operation. It enables the attendant to dispense with the self-acting apparatus, and work the hammer by hand at any instant he may require to do so, without offering the slightest impediment in any respect. Both valves are mounted on the equilibrium principle, so as to require the least possible force to work them; the valve gear is, consequently, not subjected to the destructive wear and tear of the old method in which the valve is used. None of the stuffing-boxes are exposed to the pressure of steam from the exhausting passages. The disposition of the steam gear, being low down in the framing, admits of very easy access for examination, and the respective parts are readily accessible. The piston is also very easily got out of the cylinder, and the nuts of the cylinder cover, and hoisting the hammer-block to any distance up the guides, which is readily done by the assistance of the screw motion.

There are several other peculiar advantages in this arrangement, but the fear of trespassing too much upon your space prevents me from alluding to them at present. I, therefore, conclude by stating

that a 6-ton hammer, constructed in accordance with these improvements, is now in constant operation at the Bowling Iron Works, where its capabilities and efficiency have been severely and satisfactorily tested during a period of several months.—*Bowling, Sept. 20.*

HOW SOME MINING COMPANIES ARE CONDUCTED.

Sir,—Probably we are not alone among your readers in the opinion that reports of mine and other meetings should, as nearly as possible, convey to the absent shareholder the impressions he would have received had he attended the meeting—that print, in fact, should do the work of the eye and the ear. We have received the enclosed documents, which purport to be a report of a meeting of the Trebarvah adventurers, held at the office of the company, 16, Union-court, Old Broad-street, City, a few days since. For some time we could not resist the impression that the word Trebarvah was a misprint, and that either Kilrine, Ding Dong, or Trebane, the other mines having a location at 16, Union-court, must have been intended. There was no report at the meeting, and only 11 out of about 50 shareholders were present, so that there is a propriety in asking you to record in your Journal, as early as convenient, the report as published, in juxtaposition with the report as, from our recollection of what passed, we think it should have been.—[We enclose our cards.]

Sept. 20. TWO SHAREHOLDERS. The following is a digest of the office report.—Mr. James Ennor was in the chair. The meeting was called to order by Mr. Ennor, and the report of the agent, and from Captain Phillips, with statement of accounts were read. Resolutions were passed (for anything that appears to the contrary) unanimously, to the following effect:—1. That accounts and reports be printed and circulated. 2. Ore bills, 249, 12s. 2d., to be entered in the book. 3. And 4. Captain and purser dismissed. 5. 10s. call made. 6. Lease of some additional land to be stamped and entered. 7. Late committee thanked (best thanks), new committee chosen. 8. Auditors thanked (best thanks), and re-elected. 9. Shareholders to be informed before sale of shares in arrears. 10. Confidence in Mr. Daly's (the secretary) honour and integrity, and thanks (not best thanks) especially.

The following is an intimation that the Chairman did not give a casting vote in an even division of three to three, a scrutiny having been demanded; and copies of the report of the agent and Capt. Phillips. The following is what we consider would have been a digest of what really passed:—The meeting was summoned for 1 o'clock. At 10 minutes past 1 o'clock, a Shareholder suggested the commencement of business, time being important in the middle of the day. Mr. Libri objected: there was very urgent business to transact, and he wanted a full attendance. Five minutes further elapsed, and Mr. James Ennor arrived. Mr. Libri then suggested that business should begin. It was noticed that only one more shareholder had arrived since Mr. Libri had contended for a full attendance, but he (Mr. Libri) thought the meeting was now full enough. On the motion of Mr. Libri, Mr. Ennor was called to the chair. The Chairman expressed a hope that his conduct there would promote the welfare of the company, and commend it to the majority present. He would suggest that the business should assume the regular course, and he would call on the secretary to read the notice convening the meeting. Mr. Libri wanted to know whether Mr. Ennor, one of the late committee, had not lately taken a great deal upon himself, in corresponding with the purser, going to the bankers, receiving the ore bills, and a letter from Messrs. Stokes, of Truro, respecting some shares belonging to Mr. Stainby's estate. Mr. Ennor suggested that the Chairman should answer the question, since, as Chairman of the company, he knew all particulars, and was, in fact, a party to them. The Chairman offered no explanation. Mr. Ennor said that, for the information of shareholders who were necessarily ignorant of what had taken place, he would give the information asked by Mr. Libri, though, at the same time, that gentleman, as well as the Chairman, knew the facts perfectly well. When the last cost-sheet of 1867 had to be met there were no funds, and the bankers' account was overdrawn. There was a large arrear of calls, but, notwithstanding repeated applications, not one penny could be got in for the cost. A committee was summoned, to make arrangements for sending down the cost; Mr. Ennor (in the chair) and himself were the only committee present. In despair of any better arrangement, and time pressing, it being then Thursday, and pay-day being Saturday, it was suggested, and so entered upon the minutes, that he should ask the company's bankers, who happened also to be his own bankers, notwithstanding the over-drawn account, to advance 5000. on faith of ore bills coming up in about a fortnight, and also that the purser should send such ore bills to him, that he might fulfil the engagement with the bankers. The secretary of the company and he went to the bankers, but it happening that both the manager and deputy-manager, to whom he was personally known, were absent, being witnesses on a trial at Crofton, his influence was of no use, and the Trebarvah account being looked at, and the names of the committee enquired after, the application was declined. He wrote to the purser on the subject, to whom he was known, and the purser, having authority to remit the bills to him, advanced the cost out of his own pocket. The bills, on being remitted to him, were discounted by the bankers, and the cheque thence remitted to the purser, to defray his advance. With respect to the letter of Mr. Stokes, Mr. Robinson, the company's purser, handed it to him when on the mine with Mr. Ennor: he had shown it to Mr. Ennor, the company's Chairman, with whose sanction it had been handed to Mr. Hoppe, the company's solicitor, for the purpose of carrying out the company's business.—The Chairman said he had advised the purser to advance the cash, such being in his opinion the usual course.—By the bankers' book it appeared that at this period neither the call of Messrs. Watson & Ennor (only 4s.), nor the call of the committee, had been fully paid. Mr. Libri wished to have the minute read authorising the transaction. Mr. Ennor said that he could not find the minute, then could find it, then did find it, and then read it. Mr. Watson asked if the bills had been copied? Mr. Ennor suggested the purser had copied the bills. He was not copying clerk to the company; his instructions were to save the mine, which, through the purser's kindness, had been done.—Mr. Watson repeated that he thought the bills, before being taken to the bankers, should have been brought to the secretary. Mr. Ennor said his instructions were to take the bills to the bankers, which he had done, and after that he was not sure that he should have been justified in bringing the bills to the secretary. A Shareholder remarked that if Mr. Ennor had any imputations to make he should do so at once. Mr. Ennor said he did not deal in imputations; he had a distinct charge to bring, which he would do on the motion for a call.—Capt. Phillips's report was read. The agent's report having been read, Mr. Libri moved that the agent, Capt. Osborne, be dismissed.—Mr. Woodford asked the Chairman if it was his opinion that Capt. Osborne should be dismissed? The Chairman said, such was his opinion, and for these reasons—he was lazy, not half his time on the mine, the operations consequently retarded, the levels were badly driven, the shaft badly sunk, and, as he believed, for the purpose of getting ore, he had driven a level 4 fms. below the 50. Moreover, the flat-rod had given way, and the aspect of the mine above ground was dirty in the extreme. He appealed to Capt. Mitchell. Capt. Mitchell said it was no use to appeal to him, for, as Mr. Ennor knew, he had not been underground; he had certainly been on the mine, and he found it in a very disgraceful state.—Mr. Ennor confirmed Mr. Mitchell's description of the above-ground appearance of the mine. He had rebuked Capt. Osborne, and censured, no doubt, he deserved, but he did not think committees who did not pay their calls were exactly the persons to complain of a captain for not keeping his mine in good order, and demand his dismissal. As to Mr. Ennor's allegation about the 34 fms. level being driven to get ore, that was simply absurd, for why, then, had the level been discontinued? The operation had been simply to test the level, and by its appearance at 54 fms., decide whether the shaft should be further sunk. As to the shaft and levels, whether good or bad, they were the same when Mr. Ennor saw them, in 1854, and in his report on that occasion said that Capt. Osborne manifested all that could be desired.—Mr. Woodford asked who was to be captain if Capt. Osborne were dismissed? The Chairman said that was not yet decided upon, but he should confidently recommend Capt. Phillips, formerly of Wheal Seton, whom he considered exceedingly eligible.—Mr. Woodford asked Mr. Ennor if he knew anything of Capt. Phillips? Mr. Ennor said: "Not a word; of course, the committee would make of him, as people did of other servants, every enquiry from his former employers, and why he was now out of place." A division was then called for, and Mr. Libri's votes carried the dismissal of the captain.—Mr. Libri then moved the dismissal of the purser.—Mr. Watson: What, dismiss the man who only a few days ago lent the mine money? Mr. Woodford asked the Chairman to explain the reasons for dismissing the purser? Mr. Watson called upon Mr. Libri to state at once, to save time, all he intended to do, for the present proceedings were a complete farce.—The Chairman, in reply to Mr. Woodford, said that the purser did not go down the mine, but must, he thought, have known something about the 54 fms. level. A Shareholder never heard anything so monstrous.—Mr. Ennor said he did not intend to vote for the continuance of Mr. Robinson as purser to the company, since, after the treatment he was receiving, he doubted whether it would add to his respectability to be further connected with it. He would, however, suggest caution in dismissing important officers in that style. The mine was heavily in debt, was in no good favour in the district, and he believed, but for the respectability of Mr. Robinson, would not have got credit as it had.—Mr. Libri was not satisfied with the purser. Last year a meeting of the company could not be held because he had not sent up the cost-book.—Mr. Ennor replied, that Mr. Libri knew perfectly well the cost-book was accidentally lost in the train, and could not, therefore, be sent up, but as soon as it was found, it had been immediately sent to London. Mr. Watson moved, as an amendment to Mr. Libri's motion for dismissing the purser, "That inasmuch as this company is represented by a secretary, the duties of purser are not required, and are, therefore, dispensed with."

The Chairman then called for a division on the amendment. On the show of hands, there were three for and three against.—Mr. Ennor entreated the Chairman to give the casting vote to save time, as every one knew how he would vote.—The Chairman did not do that way; he never voted as chairman when he could carry the object by other means. He supposed Mr. Libri would require a scrutiny; which Mr. Libri did, and by the result thereof the purser was dismissed.—Mr. Libri moved a call of 7s. 6d. per share.—Mr. Ennor moved an amendment that the call be 14s. per share. Mr. Libri's call would not even pay the liabilities shown on the account; but, the fact was, the account did not represent the exact state of the company. A very large portion of the arrears of call never would be got in at all; nor had the company, for the purposes of a call, 1024 shares. A Shareholder, generally, were allowed to pay their calls on conditions.—Mr. Ennor considered that any gentleman was dissatisfied he could take his remedy.—Mr. Ennor, in continuing his remarks about the call, showed that, from the circumstances he had brought before the meeting, neither the assets nor the shares shown on the account could be relied upon, and that less than 14s. a share would not pay even the debts.—Capt. Mitchell moved, as an amendment, that the call be 20s.—viz., 14s. for the debts, and 6s. to go on with. It was absurd to keep the mine in debt; and if they were to do anything with it, they must carry out Mr. Phillips's recommendations, which would cost money.—Mr. Woodford seconded Capt. Mitchell's motion for the 20s. call.—Mr. Ennor said he would meet the question, and say 10s. instead of 7s. 6d.—Mr. Ennor advised the shareholders to accept this arrangement; not that it was right, but because in mines conducted in this fashion must not be choosers; and, perhaps, if they did not take what they could catch, they would not be allowed to have a call at all. At the same time, he protested against Mr. Libri's proceedings. Here were respectable shareholders ready to make and pay proper calls, but, through Mr. Libri, were prevented; and so, to please him, they must remain liable to disaffected creditors and the Stannaries Court; for his part, he would take care of himself in the matter.—A lease of some extra land was laid before the meeting.

Best thanks having been voted to the late committee, Mr. Libri announced to Mr. Ennor that he was going to move for a new committee, from which he would be excluded; he did not wish to take Mr. Ennor by surprise.—Mr. Ennor said, the surprise was that he had not been sent off three months ago, when Col. Croft, a most respectable man, was got rid of by the same sort of process.—Mr. Libri said, the committee he should move were Messrs. Seward, Ennor, Scalla, and Northen, they were gentlemen in whom he had great confidence.—Mr. Ennor bore witness to the entire eligibility of Mr. Northen, and was glad his place was to be filled up by such a man. As to Mr. Scalla, he had scarcely ever attended committee.

The auditors were re-elected, with best thanks. At this period, most of the shareholders, except those attached to Mr. Libri, left the room. As Mr. Ennor was going, Mr. Ennor wished to know if Mr. Ennor meant to impugn his honour and integrity? Mr. Ennor replied: "If you mean honesty, certainly not, but your subservency and want of independence are much too manifest."

Afterwards, it appears, resolutions were passed by Mr. Libri's supporters, that notice

of shares for sale be sent to each shareholder; and expressing confidence in Mr. Daly for the manner in which he had discharged his duties.

BLAENAVON IRON AND COAL COMPANY.

Sir,—You will much oblige me by correcting an error in your report of this company's meeting, held at the London Tavern on the 19th inst., which conveys an erroneous impression of what I said respecting the management. What I stated was, that as long as the works were managed by a London board, there never would be, as there never had been during the last 10 years, a single dividend from real profits; that eight directors were an useless burden, and that three or four would manage much better—say, one or two in London, to direct the financial and sales departments, and two in the country, practical and competent, who should attend regularly at the works, to confer with and assist the present manager.

Again, in your remarks on the meeting, at page 608, you state:—"The objection having been persisted in, Messrs. Steel and Hill came forward as the responsible parties, and the business was allowed to proceed." Nothing of the kind escaped from me, nor do I think from Mr. Chas. Steel. I stated that I knew nothing whatever of Messrs. Banks and Co., and their committee, further than their circulars conveyed, and that I thought the meeting ought to know who the parties were. Mr. Banks having given up their names to the Chairman, the business of the meeting proceeded. *Widlow Works, Abercromby, Sept. 26.*

J. C. HILL.

BLAENAVON IRON AND COAL COMPANY.

Sir,—The amateur miner, Mr. J. C. Hill, again appeared in the field at the late meeting of the discontented—whether shareholders, or those who would be shareholders, in spite of the bad repute of the company—and in his usual oracular manner wound up the proceedings with expressing his belief, that so long as the direction was in London they never would receive a penny in the shape of dividends. In reply to my letter in May last, in which I named Mr. Thomas Hill as one of the committee, that gentleman denied the fact, saying—"I beg to inform him I was not a member of the committee appointed at the meeting of the 27th April;" it, however, appears, that Mr. Thomas Hill was named, but did not choose to act; nevertheless, he was good enough to assist with his advice,—"Mr. Thomas Hill declines to act as one of the committee, but has assisted them with his advice, and by giving valuable information concerning the affairs of the company."—(Committee's Report.)

Well, the company can have no dividend as long as the London board exists; let us, then, arrange a Blavenon board, which is to be a council of three—say, Mr. J. G. Williams, Mr. J. C. Hill, leaving the chair of management, if he can be persuaded to leave his retirement, to Mr. Thomas Hill, in which case Mr. Williams, judging from his letter, which appeared in the *Mining Journal*, in June last, would prove a very watchful and most efficient lieutenant. Mr. Williams in his letter says—"Within the last eight months, one of the newly-appointed directors (holding only 25 shares in the concern) has recommended and sanctioned an outlay of upwards of 30000, independent of the expense of his visits to the works, at 10s. each (!), and his friend who came with him, has cost the concern upwards of 1500, for his superintendence in the alteration of one of the coal pits, which, when completed, will not realise 30s. per annum profit. The same person is now here, and has been for some time, incurring a heavy expense. What his intentions are it is hard to say; no one here can tell." How singular! that this gentleman, a resident of Blaenavon for twenty years, should be able to tell the exact cost of expense, 10s. each journey, and yet not be sufficiently in the confidence of the manager to learn for what it is incurred. We can only suppose, from Mr. Williams's statement, that the manager is as ignorant as himself, and finds it hard to say, or, in fact, cannot tell.

The meeting altogether was a very sorry affair. The only sensible person present appears to have been Mr. Morris; he, naturally enough, asked for the names of the committee by whom the circular had been issued, as it only bore the signature of Banks and Co. For important reasons this was withheld; and then came the next proper enquiry—Are you a shareholder, Mr. Banks? when it appeared that he wished to be one, but had not been approved by the directors! In the absence, therefore, of the names of the committee, we will suppose them to be Messrs. Banks, Gamp, and Harris. The only circumstance which gave any weight to the meeting, was the attendance of the legal adviser of the Earl of Abercromby; but he attended under the impression "that the meeting was one regularly called by the directors, in the regular way." He did attend, however, and entered into some particulars of the proposed lease; and I cannot do better than to draw attention to his remarks at the conclusion of his address, as reported in the *Mining Journal*. They may be useful to some who have been weak enough to suppose that the late proceedings had a beneficial tendency. What folly in pushing forward this meeting! How much better it would have been to adopt the advice given in a late letter by Mr. Harry Scrivenor—to wait till the lease was settled, and then join the whole body of shareholders in doing that which might be right under the circumstances. They have now exposed their weakness; the meeting was called by one who was not a shareholder, but wished to be so, and possibly others in the same position might have been present. The names of the committee were withheld, to give strength to the position of Messrs. Gamp and Harris, in their threatened legal proceedings, and to enable them, by hook or by crook, to pick up something which might assist their personal interests. "Mr. Banks stated that the committee of shareholders were striving to obtain information, with a view to the institution of proceedings against the present board of directors, both in Lincoln's Inn and Westminster Hall (*brutum fulmen*); and as under present circumstances there was great difficulty in obtaining that information, which difficulty would be very materially increased were the names of that committee known, he was not at liberty to publish them; but he could assure the gentlemen present they were not shareholders, and many large ones too, in the Blaenavon Company." How pure, how disinterested in gentlemen who have no earthly interests in any of the earlier proceedings of the company—in fact, they ought to be grateful to the directors, who, according to their statements, must by their mismanagement, to say the least of it, have enabled Mr. Banks and others to pick up their low-priced shares—shares which hereafter might turn out greatly to their advantage, if the directors would but accept them as proprietors! The meeting closed by Mr. Morris very judiciously moving a resolution, "That the meeting do now adjourn, and that no further proceedings be taken until the lease is completed." This was seconded by Mr. Lewis, who trusted "that the whipping the (directors) had had would produce a most beneficial effect!"

But the most extraordinary and most indecorous proceeding at the meeting was the letter from Messrs. Robins and Bates, the mortgagees, these gentlemen lending their names and approval to an illegal meeting, whose avowed intentions were hostile to the directors—to the very persons from whom Messrs. Robins and Bates receive their annual payments. Much might be said on this subject, but for the present I abstain. With this exception, and the good advice of Mr. Walford, the solicitor, the whole was *ex et preterea nihil*.—*Sept. 25.*

WELL-WISHER TO THE CONCERN.

THE CHARTERED COLONIAL FIBRE COMPANY.

Sir,—Another extensive speculation is about to be launched into the market. Another 100,000 is to be raised by the public. Is this to be another instance of ultimate failure? Who the promoters are has not yet been made public; but are they such men that their opinion only of the fitness and capability of the patented machinery to realise the promises made by the inventor should be taken, without any proof whatever of its efficiency? It might fairly be expected that the inventor comes forward with his machinery, well tried, and prepared to execute what he promises. This, at least, is what the public have a right to expect from him, in return for the support desired. But is this not more than he can show? Is he in a position to show that he has ever had such a machine in action? To say that he has proved his invention by a small model, when built of the size required for working, will act properly and economically. And further, does there even such a model exist? It would, therefore, have a very strong appearance as if the promoters asked the public to provide the large sum of 100,000, upon the strength of a set of most elaborate and beautiful drawings of a machine (these sheets of paper of course exist), which is asserted, when built, to do all and everything expected. It is hardly possible to imagine that any body of men of business could embrace a scheme founded on no secure basis as this, after the numerous and heavy losses which have already been experienced from speculations raised upon promises. The only gainers in such speculations are the engineers and machine builders. Some half-dozen of these machines may probably be ordered, and sent to various quarters of the globe, and then tried, and the capital be thus expended. If common foresight only guided the councils of the promoters, much loss might be avoided.

There can be no question but that the objects sought to be attained are of extreme importance, and if properly managed, such a company might become a very great benefit, and produce results of an astonishing nature; but fatal errors must not be committed at the commencement.

It is to be hoped that the promoters of this company will be able to inform the public that one of the machines intended to be used has been tried, and found to answer well. If they can do this, they may fearlessly appeal to the public for support to carry out the adventure on a large and extensive scale; but, on the other hand, let them beware how they attempt to mislead the public.

Bristol, Sept. 24.

FOX TOR TIN MINE, AND ITS MANAGEMENT.

Sir,—I observed in your Journal of the 15th inst. a letter from "Observer," which I thought merited no attention, as if the writer were anxious to learn anything of this mine, he might, on application at the offices of the company, find the information he enquired for; but another letter appears in the Journal of last week, from "A. V. N.," and as it contains not only grave but false assertions, I lose no time in contradicting them. Let him read his letter, and compare the following:—"The directors met nearly every week for 18 months without ever receiving one penny for their trouble. The half-yearly meetings were held, and the last a special meeting, and publicly advertised in January last, and but one shareholder attended. The directors collectively invested and paid for the company's account more than 5000., and are prepared to pay 5000. more if the shareholders will support them. Your correspondent, 'A. V. N.,' is however right about the sale by the Stannaries Court; but this would not have injured the company had there not been an attempt on the part of the lessees, Messrs. Phillips and Peter, to forfeit their sett; but this has not deterred the directors from doing their duty, and they hope the lessees, who are large shareholders, will rather assist than keep them in a position of *statu quo*. A bill in Chancery has been drawn and will be filed, to prevent them from defrauding the shareholder, should such be necessary. It is hoped it will not be needed, and will only be used as a last resource. The advantage to every one connected will be the greater by a mutual concession. If the existing differences are removed, an association is already formed for working the mine, under the Law of Limited Liability, and reducing the shares to 2000. of 10s. each, and receiving back the issued shares in proportionate payment of the new shares. But let shareholders unite, let them be active, and not seek to blame directors, who gave time and labour for 18 months, without receiving one penny for either." A DIRECTOR, WHO WILL NOT FORSAKE HIS POST.—*Sept. 25.*

WEST PHOENIX MINE, AND ITS MANAGEMENT.

Sir,—Having written the secretary and the captain and purser of this mine several times for information as to this working, and having received no reply, I beg, Mr. Editor, through your Journal, which is always open to obtain information for persons similarly situated, to ask any brother shareholder if he can inform me whether the mine is working or not? who are the committee, as the last report was issued without the names appended? and why the reports are not published in the Journal, as formerly? Had I no other cause for complaint, the non-reply to my letters you, Mr. Editor, will admit to be a valid one, and certainly ill accords with the character of the chief captain and secretary by a gentleman of most extensive mining connections, resident in Leeds, who stated he had been on the mine with them, and that they were men of high standing in their relative situations.

At this remote distance, and with such neglect, it appears to me, Mr. Editor, their business is only to make and enforce calls, as suits their purpose. I am reluctantly compelled to come to this opinion, and I shall be glad if any of my fellow-shareholders will give me such information as will enable us to get out of the apathetic state into

The CHAIRMAN said they were now to consider and decide the question as to whether or not the 85 shares which had been taken from the payment by the holder of the calls, being forfeited, and if so, clause 6 of their Deed of Settlement they were empowered to sell all forfeited shares, and it rested with the shareholders present to say whether it was to be done or not.

MR. HERAPATH moved a resolution to the following effect:—"That the shares forfeited be sold by public auction," which was seconded by Mr. LANKESTER, and carried with but one dissentient. The meeting was then declared special.

The CHAIRMAN said, that since the meeting had been convened an accident had happened at the mine, which, although at first thought to be fraught with serious consequences, he was happy to state had rather tended to expel the rush of excitement than otherwise. In sinking a few fathoms below the 40 ft. level the rock had broken, causing at the time considerable alarm, but which was happily

to have a prolonged stay in London.

★ **MADAME TUSSAUD'S EXHIBITION.**—An addition to the war group has just been made of a portrait model of the Dowager Empress of Russia, and which is certainly one of the most life-like in the Exhibition, and it is also considered to be an excellent likeness of the distinguished lady.

BRITISH MINES.

LADY BERTHA.—The lode in the winze continues to improve, and the ore now coming to surface is exceedingly rich, and of a most splendid description. I have this morning commenced drawing the ore to quay, and shall sample, on the 28th inst., about 15 tons, worth 100 per ton, one-half of which will be profit to the adventurers. Thus, if things continue as at present, we have a dividend mine at once. The winze is worth at least 6 tons per ft. —W. Goss: Sept. 26.

LEEDS TOWN CONSOLS.—In the 40, east of engine-shaft, the lode continues the same, as does the ground in the cross-cut south, in the same level. The ground in the 30, south, on the floor, is soft, and we have to use timber. At Eley's shaft the lode continues poor; the stopes in the back of the 10, east of this shaft, are not so good as they have been, but they are showing signs of improvement; the stopes in the bottom of this level have improved during the last few days. We have three pitches working at 8s. in 14; two of them have very much improved since taken by the trippers; the men are, consequently, getting large wages; should these pitches continue equally good throughout the month, they will be set at a much lower tribute; we have a fourth pitch working, at 6s. 6d. in 14. The stamps are working twelve heads well, and the consumption of coal is less by 5 cwt. per 24 hours. I received a note from Mr. Simpson last night, in which he informs me he intends to commence his alterations in the stamping engine next Monday, and I shall be very glad if they prove effectual. —PETER PARSONS: Sept. 25.

MOLLAND.—The pitch in the back of the 42 east is worth about 74 per ton. The pitch in the back of the 20 is worth 74. 10s. per ton. At the shaft in the eastern mine, the men having in the past week cut in south 8 or 9 feet from shaft, without meeting with the main part of the lode, have begun again to sink, where we have several branches, one of which is 8 or 9 inches wide, producing occasionally good stones of ore, and which, no doubt, will lead to the main part of the lode; this, however, I believe we shall be able to ascertain in the course of sinking a few feet more. The lode in the adit, driving east, is 3 ft. wide, producing stones of ore. Our surface-water has occasionally decreased, in consequence of the long drought. —T. BENNETT: Sept. 26.

NANTEOS AND PENHILL.—During the past week we have had a few showers of rain, which have enabled us to work our wheels for three days only, and our ponds are again exhausted; the weather is at present very dry. There is no alteration to speak of in the lode in the Eystunian deep adit east during the past week. —MICHAEL BARRETT: Sept. 24.

NORTH BASSET.—In the 52 fm. level, west of Grace's shaft, the lode will produce 4 tons of rich copper ore per fm. In the 42 fm. level, west of Grace's shaft, the lode will produce 2 tons of copper ore per fm. In the stopes in the back of the 42 fathom level, east of Grace's shaft, the lode will produce 10 tons of ore per fathom. —THOMAS GLANVILLE: Sept. 22.

NORTH DOWNS.—The cross-cut at Michael's shaft is going on well. The foundation of the engine-house will be completed next week, and by that time most of the engine will be brought on the mine. This is done on contract; also, the carrying of stones and building the engine-house, &c., at per pitch, the particulars of which shall be sent to your offices next week. —J. PRINCE: Sept. 22.

NORTH WHEAL ROBERT.—The 42 fm. level, driving west on the south lode, continues to improve; the lode is about 6 ft. wide, worth 200 per fathom; the stopes in the back of this level will yield 3 tons of ore per fathom. The end driving west in the 30, on the south lode, will produce about 2 tons of ore per fm.; the stopes in the back of this level are yielding, respectively, 2 and 3 tons of good quality ore per fm. In the cross-cut, driving from this level, towards the south lode, we have intersected a large capel, and to the south of the capel, a lode about 2 ft. wide, producing good saving work; this lode underlies south. We have now to drive on, further, to cut the south lode. We have resumed sinking the Trial shaft on the western ground, and have no doubt we shall be able to give you a good report from this place in a few days. The lode in the end driving east from this shaft, in the 20 fm. level, is about 4 ft. wide, all saving work. We are very busy at the dressing-floors, and shall sample about 120 tons of ore on Friday, Sept. 28. —A. PAVOR: Sept. 24.

OLD WHEAL BASSET.—We have not cut the flat lode in the shallow level cross-cut, west of Paul's shaft, but expect to do soon. We have purchased a whim for the western shaft, on Wheal Bank lode, and intend to clear the adit west to the end, where, I have been informed, there is a very large lode, composed principally of munda, spotted with copper ore. We shall be able to work some of the ground also from this shaft, in the back of the deep adit level. Our tributaries are still working in good spirits, and this day fortnight we expect to sample about 30 tons of copper ore. —Sept. 25.

PEDNAN-DREA UNITED.—Our sumpmen are engaged in dropping the lift from the 80 towards the bottom of the mine; having a 12-in. lift at the 80 we hope to drain to the bottom of the mine in the coming month. The same party are also clearing and repairing the 80, west from the engine-shaft, towards the 80 end; in this level and end the lode has a favourable appearance, and at present will produce good saving work for the full length of the level. We have not set any ground east of the engine-shaft at the 80, nor cut the kibble sent in that level to draw. We have set a winze to sink below the 70, on the lode, to four men, at 84 per fathom. When this is communicated to the 80 it will enable us to drive the 80 east on engine and Back-door lodes. We are driving west in the 68, west of the cross-cut, by six men, at 185. 10s. per fathom; the level will be driven very wide and 7 ft. high in the ground we have been cross-cutting through in this level; the lode is good for tin. We are also driving the 68 east by four men, at 175. 10s. per ft.; the end will be driven 6 ft. high and 12 ft. wide, in a good lode of tin. Trevena's shaft is set to complete the 55 to 70 by eight men; the lode is from 6 to 7 feet wide, hard and spare for stinging down. The 68 east, on Back-door lode, is set to drive by four men, at 100 per fathom, producing a good lode of tin, a good lode, in through out. The 55, the lode in the end is from 10 to 15 ft. wide, a good lode, in through out. The 55 cross-cut is set to drive north of the engine lode towards the north tin ground, set four men, at 125 per fathom, 2 fms. or cut a lode. Our tribute is all set, most of former tribute at 11s. and 12s. The steam-stamp house is completed, and on Wednesday next we shall put the steam-whim to work, and the boiler and some other parts of the stamping-engine will be delivered on the mine. Other things are going satisfactorily. —J. DELBRIDGE; J. CARPENTER; T. DELBRIDGE: Sept. 21.

The new steam-whim has now gone to work in first-rate order, and is drawing the 70 fm. level, and getting ready. The steam-stamps are progressing, and, when at work, will greatly add to our monthly sales of tin. —Sept. 26.

PMBROKE AND EAST CRINNIS.—Tinter's District: In the winze sinking in the bottom of the 30 fm. level no lode taken down for the week; the men will commence to break in the course of a day or two; the ground in the cross-cut driving north is still favourable. —Reid's District: The shaftmen are getting on well with the lift, and if all be well they will put it to work this afternoon. —East Crinnis District: The main lode west in the 134 is about 3 ft. wide, with good stones of ore. On the 132, east, is about 2½ ft. wide, worth 60 per fm. The main lode west in the 122 is about 2½ ft. wide, then last reported, it is at present disordered by a slide; the winze sinking in the bottom of this level is 3 ft. wide, a good lode, in through out. The 122 is still poor. The 90, east from Smith's shaft, is just the same as last reported. The ground in the cross-cut, driving south-east from Smith's shaft, is fair for driving. We have communicated the 50, east from Smith's shaft, to the 40 at Wheal Unity, and to establish a whim on Wheal Unity engine-shaft, in order to clear the stuff and to establish communication for ventilation. It is gratifying that this important object is accomplished in so short a time, and with so little expense. —JOHN DALE; G. T. TREVAN: Sept. 25.

PENAUGER.—There is no alteration on the lode to notice since last reported; consequently, we shall continue our present stopes higher. —T. GREENELL: Sept. 24.

RITON CASTLE.—The cross-cut is now driven 3½ fms. south of engine-shaft, and in sale. We have had more water issuing from the end for the last 2 ft. —J. GERRARD: Sept. 25.

ROUN HILL.—The new lode in the 30 fm. level, driving south-west, is disordered by cross-branch, and at present is of no value for lead ore. The lode in the 30 fm. level, driving south, is 18 inches wide, with spots of ore in it. The lode in the 20 fm. level, south of engine-shaft, is upwards of 4 ft. wide, and will yield 20 cwt. of lead ore per fm. The 18 ft. level, north of engine-shaft, will yield 10 cwt. of lead ore per fm. No 2 pit in the back of the same level, north of the shaft, will yield 20 cwt. of lead ore per fm. No 3 pit in the bottom of the 20 fm. level is the same as last reported, yielding about 20 cwt. of lead ore per fm. No alteration in the tribute pitches in the backs of the different levels worthy of notice. —J. KNEEDON: Sept. 26.

SORTIDGE AND BEDFORD.—The new shaft, on the copper lode, has been sunk to the depth of 12 fms., in a very congenial piece of ground for mineral; the lode at 12 fms. is 1 ft. 6 in. wide, composed of gossan, munda, and quartz, carrying a beautiful soft flouk. We have got the axle to pit, and the carpenters are busily engaged erecting the engine-wheel. We have completed 100 fms. of lead. —T. TREWEEK: Sept. 26.

SORTIDGE CONSOLS.—At Hittins's engine-shaft, the ground has become a little harder, still I do not think the lode is far off. At the eastern engine-shaft, we have cut through the lode north of the shaft, and find it to be about 4 ft. wide, spotted with copper ore, but worth nothing to value. The pit in the 40 west is completed, and we have commenced driving west of the cross-course, and find the part of the lode which we are carrying is worth 1 ton per fathom, and has every prospect of further improvement. In the 40 east the lode is 3½ feet wide, worth 3 tons per fathom. Baker's stopes, in the back of the 30, is much the same as last reported. 3 tons per fathom. The pitch in the back of the same level is as good as ever—in very important discovery: the tributaries have driven a cross-cut further north in the mine, for its size, since the commencement. All other things are progressing with the utmost speed. I cannot say what will be the result of the new discovery. In consequence south in the Earl of Montague's land, we have cut a lode, about 3 feet wide, underlying north towards our main lode, or Hittins's lode, will be about 22 fms.; it is composed of gossan, pruan, quartz, and killa—a promising lode. There is another lode cut still further south, which I cannot say anything about; it is a very promising gossan. Altogether, I think this is of great importance to the value of our mine. —J. McTERRILL: Sept. 27.

SORTIDGE UNITED MINES (NEAR TAVISTOCK).—I am much pleased that you have obtained the grant for mining on the lands of Mr. R. P. Parly, in the parishes of St. Andrew-Spiny and Wharfedale, which you have termed the Sortridge United Mines, and annexed at the east to the great range of Dartmoor. This set of your grant, which is a mile north to south, and comprises numerous east and west lodes, with an extraordinary cross-course of great size, which tends much to add to the productivity of the east and west lodes; the set also extends nearly a mile in an east and west direction, and I positively assure you that you have the lodes of Great Sortridge Consols in your set; the lodes of the latter mine are very productive of copper ore of rich quality, and adjoining to Wheal Robert is the Sortridge Consols Mine, now celebrated for its richness in your set, but I presume you have equally productive lodes, and it cannot be denied that you have greater probability of abundant copper ores from the many lodes in your set than ever can be expected from the celebrated mine mentioned, as the latter mine is made by comparison—i. e., to the productive copper district of Cornwall and Devon, the best and most productive mines of this district being annexed to the granite range. I have frequently visited and inspected the district of your set, and am fully convinced that it would become, by a moderate outlay, a very profitable and remunerative investment. I have no hesitation in pronouncing your set equal to any piece of mineral ground to be anywhere obtained. I have seen the workings of old mines in your set, which are exceedingly promising, and I observed the richness of tin in your set of some remote period, which might have been made in a very congenial stratum of clay-slate or killa; and from the many lodes traversing the granite range, cannot fail to be productive of abundant copper

ores; and whoever may embark with you in this adventure will be very fortunate. Any further information on the set, or mode of proceeding in working it, is at your command by application, and I shall feel great pleasure in seeing this mine fairly prosecuted. —JOSEPH HODGE: Sept. 27.

SOUTH BEDFORD CONSOLS.—There is no alteration to report in the engine-shaft. In the 40 west the lode is 3 feet wide, producing 1½ ton of ore per fathom. The stopes in the back of this level are worth 3 tons of ore per fathom. The lode in the 30 west, the lode is 5 ft. wide, yielding 3 tons of ore per fathom. In the 30, west on the middle lode, the lode is 5 ft. wide, producing saving work. —J. PHILLIPS: Jan.

SOUTH CARN BREA.—I have forwarded a box of ore broken from the late discovery in the bottom of the flat-roof shaft. We are carrying in the shaft 8 ft. of the lode; the branch opening on is about 8 inches wide, composed of beautiful green carbonate, and black and yellow ore, very rich, of like quality and similar to the ore now raising from our main course of ore in North Basset. —T. GLANVILLE: Sept. 26.

SOUTH CREWER.—We are sinking the engine-shaft below the 64, ground favourable and water little. The rise in the back of the 84 west is in favourable ground; the lode is 1½ ft. wide, worth 1 ton of ore per fathom. We have about 2 fathoms to communicate this rise to the 74. When the rise is holed we expect to open some ground in the back of this level (the 84). In the 74, east of engine-shaft, the lode is about 9 to 12 in. wide, producing good stones of ore, not much to value at present. In the 64, east of Gore's, the lode is from 2 to 2½ ft. wide, producing from 1½ to 2 tons of ore per fathom; this end bids fair for a bunch of ore, having a large lode in the level above, which produced a large quantity of munda, ore, jack, &c. In the stopes east and west of Gore's winze the lode is from 3 to 3½ ft. wide, and will produce from 2½ to 3 tons per fathom. In the 54, east of Gore's, the lode is 1 ft. wide, producing fine stones of ore, munda, and quartz; this end has a promising appearance, but at present not to value. Our old tribute pitches are not producing the quantity of ore they did in the past month. Our sampling on Tuesday next will be about 124 tons. —J. DELBRIDGE; E. CHIEVINGTON: Sept. 22.

SOUTH DEVON GREAT CONSOLS.—Our operations and prospects are much the same as reported last week. The ground in the engine-shaft continues very hard, but we are using every means in our power to force it; the lode is spotted with ore, and looks kindly. In the end in the 57 fm. level the lode has a good appearance, but does not contain any ore worth saving. The cross-cut is progressing favourably. —J. COCK: Sept. 26.

SOUTH ROBERT AND SORTIDGE UNITED.—Our present operations are now confined to proving the various lodes, and have intersected No. 1, or the north lode, in another pit, and have sunk on the lode 9 ft.; it is a fine lode, 6 ft. wide, composed of gossan, munda, &c., spotted throughout with copper ore, and from all appearances will make copper very shallow. The stratum is a beautiful light killa, precisely similar to the adjoining mines, North Robert and Sortridge Consols. The south lode is 12 ft. wide, carrying a fine gossan on the back, with pruan, quartz, and munda, and promises to be very productive for copper ore at no great depth. —J. POMEROY: Sept. 26.

SOUTH ZION.—The adit level has been extended 9 fms. 3 ft. beyond the No. 2 east and west lode, and a level east on the course of the same lode is now in 6½ fms. The lode in the end is 2½ ft. wide, with two well-defined walls, and is altogether a good looking lode, spotted with copper ore. We intend to open a shaft from surface at the point marked in the plan, near the South Tamar lode, at between Nos. 1 and 2 east and west lodes, which will intersect No. 2 dipping south, after we get down (say) 8 to 10 fms. The shaft will then be continued on the course of the lode. —J. HODGE: Sept. 26.

ST. AUSTELL CONSOLS.—Dowson's engine-shaft is down 2 fms. under the 25 fm. level; the shaftmen have been partly engaged about other necessary work. The lode in the end west in the 25 is as rich as ever, and is showing every appearance of continuance. I have nothing new to report underground in the other parts of the mine. At surface, we have nearly completed our new calcining ovens. We are also preparing for the reception of our new steam stamps. Our new stamps will be of sufficient power to drive, if necessary, from 120 to 130 of our required weights. —R. H. WILLIAMS: Sept. 26.

TALIESIN.—Both ends in the bottom of the winze are much the same in appearance as last week, also the stopes and tribute pitches. The whim is working at the new shaft daily, have set the shaftmen to stope the back in bottom of the winze, and have to sink on bottom of the winze, and to sink the ore sold so favourably. We shall commence to load the vessel to-morrow. The three tributaries west of the old whim-shaft have got into a very good lode, about 9 ft. wide, in the south side of the old workings. I think it would be a good trial to drive 6 or 9 feet, to cut this lode in the adit in the bottom of the footway. —W. WILLIAMS: Sept. 23.

TAMAR MARIA.—The level is now open 2½ fms. west of the cross-course; the lode is still 1½ ft. wide, and of the same character as last reported. The ground in the end is very good. —J. HODGE: Sept. 26.

TAMAR SILVER-LEAD.—We have not taken down any lode in the 215 during the past week, but the appearances are most promising. The lode in the 205 is 2½ ft. wide, yielding good stamps work, and the stopes in the back of this level is returning 8 cwt. per fm. In the 190 end the lode is still rather disordered, and producing at present 1 ton of ore per fm.; the stopes in the back are returning as follows—No. 1, 2 tons per fm.; No. 2, 1 ton 14 cwt.; No. 3, 1 ton 8 cwt.; No. 4, 1 ton 4 cwt.; No. 5, 1 ton per fm.; and No. 6, 1 ton 17 cwt. giving 9 cwt. per fm., and the 160 stopes 8 cwt. per fm. —W. BONNIE: Sept. 26.

TOKENBURY.—The lode in the engine-shaft, sinking below the 32, is 3 ft. wide, composed of spar, pencil, and black and yellow copper, not enough of the latter to value—akinly lode, ground spare for sinking. The ground in the cross-cut south in 32 is much as last reported. As the D lode has not been opened on in the same level, east of cross-course, I have thought it advisable to put two men to open on it, and hope next week to send you its size and character. The lodes in the 37 are just as last reported. We are progressing satisfactorily with the fixing of the new engine.

TRELEIGH CONSOLS.—We have cut through the hard floor of quartz in one part of Carr's engine-shaft, and shall get through the whole of it by Tuesday next. Under this quartz is a light blue good working lode. Nicholson's shaft is now brought down 5½ fms. below the adit level; next week we shall see the bottom of the old workings, where we have been informed a good lode of ore exists. Wheal Catherine adit is cleared, and everything is brought in good working order. All the gearwork of Garden's engine has been removed to East North Down, and the larger parts will follow forthwith, so as to enable us to throw down the house, which will be done as soon as possible. —J. PRINCE: Sept. 22.

TREWETHA.—The engine-shaft is sunk 13 fms. below the 40, where the ground within the past fortnight is considerably eased; inasmuch that I expect to get down and commence the driving in the ensuing week. In the 40, north end, there is no change to notice—much water continues to issue therefrom. The eastern lode is still producing some saving work. The stopes are turning out much as usual. The crusher continues to work exceedingly well. We expect to sample 38 tons of crop ore on Friday next. —W. ROWE: Sept. 26.

VALE OF TOWY.—At Clay's engine-shaft, at the diagonal shaft sinking under the 30 fm. level, the ground is somewhat harder; our progress in sinking is, therefore, rather slower, about 3 feet per week. In the 30 fm. level north the lode is 2½ ft. wide, producing a good lode of lead per fathom; great much easier for driving; south of Field's shaft the lode is the whole breadth of the end, and producing occasionally good saving work for lead. We have suspended driving the 20 south for the present the air being bad, and have put four men to rise in the back of the 10 fm. level, which holed we shall have good air again, and resume driving the end, the lode is 2½ feet wide, producing 25 cwt. of lead per fm.; in the same level, north of Bonville's shaft, the lode is 2 feet wide, producing lead, but not to value. We have set the winze in bottom of the same level; the lode is 2 feet wide, producing 10 cwt. of lead per fathom. —S. THOMAS: Sept. 25.

WEST ALFRED CONSOLS.—The lode in the 75 fm. level, west of old sump shaft, is 5½ feet wide, of a most promising appearance, and worth 84 per fathom; the lode in the winze over this end is worth 100 per fm. 22 ft. shaft, sinking below the 75, is down 9 ft., where the summer are fixing lift, &c., preparatory to sink below that depth, which we hope will be accomplished in a week from this time; the lode in the 75, east of this shaft, is 2 ft. wide, containing occasional stones of ore; the lode in the western end of this level is looking more promising, containing stones of ore; the stopes in the back of this level are worth 200 per fm. The lode in the 65 west is 4 ft. wide, and worth 150 per fathom, with every prospect of a further improvement. For expediency in sinking, we are cutting No. 1 winze from 6 to 7 feet in length, and 200 per fathom. The lode in the 55 west is at present unproductive, being in disordered ground. —L. LEAN; R. STREVE: Sept. 26.

WEST BASSET.—The lode discovered in the 42 cross-cut, south from Thomas's shaft, is looking well; we have cut into it 20 inches, without any appearance of the south wall. If this lode turns out according to our expectations it will add many thousands to the value of the mine. I hope to be able to give the size and value of the lode by Saturday next. Our sampling yesterday was to the amount of 589 tons. —W. ROBERTS: Sept. 27.

WEST PAR CONSOLS.—We have taken down some part of the lode in the eastern end, and find a great deal of munda, and some spots of ore, and no doubt it will make a large deposit of ore as we extend on it. We have driven in the north cross-cut, this week, about 6 ft., and have a great deal of munda going on with the cross-course. I think we are not far north enough yet for the west part of the lode. The ground at the shaft is much as it has been: we have this week sunk 3 ft. —THOMAS FLOYD: Sept. 27.

WEST SORTIDGE CONSOLS.—The lode in the 10 is increased in size, but it is not rich. The lode in the stopes is producing fair tin work. There is no alteration to report on in the cross-cut south from the shaft. —J. PAVOR: Sept. 26.

WEST WHEAL TOWAN.—We have broken good stones of tin in the past month from Wheal Lushington lode, in the 40 ft. level, east of Taylor's shaft, but so far the lode is not enough to be of any value. We have brought down the rail-road to the 55 fm. level, and changed the pitwork at Vivian's shaft. The sumpmen will ease down the shaft, and in a few days will commence driving north and south to cut the lodes, which we hope will be down before next setting-day. We have cut another lode in the 45 fm. level cross-cut, north of Vivian's shaft, but it is poor in the cross-cut. We shall prove at this place by the end of the month whether Taylor's lode is holed or not. We have put two men to drive a short cross-cut north from Wheal Taylor, in the 25 fm. level, east of Caroline's shaft, to cut Taylor's lode, which is making tin in a winze sinking below the 15 fm. level. The ground is still very favourable for driving in the adit level cross-cut, south of Taylor's shaft, and we hope we are near a lode, as the end is discharging much more water. Our tribute department is much the same; the men are working with spirit, and our returns for the two months will be about the same as our last. —Sept. 25.

WHEAL ARTHUR.—North Lode: The flat-roof shaft is sunk 4 fms. 3 feet below the 60, and progressing favourably. We have met with several branches of munda and copper in the 60 cross-cut south during the past week, which makes me think we are near the lode. The lode in the 50 west is 4 ft. wide, composed of spar, munda, and good stones of copper ore, and the ground more favourable for exploring. The lode in the 40 west, in the bottom of 35 west, is 5 ft. wide, worth 100 per fm. The lode in the 30 west, in the bottom of 35 west, is 6 ft. wide, worth 150 per fm. The lode in the 20 west, in the bottom of 35 west, is 4 ft. wide, worth 100 per fm. The lode in the 10 west is 3 ft. wide, producing good work for tin. The lode in the back of 20 east is 2½ ft. wide, yielding good work for tin. —WATSON'S Lode: The lode in the 50 west is 6 ft. wide, composed of spar, munda, and stones of copper ore. —OLD Lode: We have driven 9 ft. south in the 100, but not yet through the lode. —T. CARPENTER: Sept. 26.

WHEAL CREBOR.—Our shaftmen are making good progress in sinking Rundle's shaft—ground still good, and very congenial for ore. By my next you will have the depth below the 54. The 54 and 44 ends are much as last reported. The winze below the 24, as set a fortnight since, is cleared up and secured, and the men put to work in it, as it appears the lode is to the south of the winze; the prospects are to the south, but how much we shall not ascertain for some days. The lode in the stopes below the 54 is full 7 ft. wide, ore, and of a very promising nature; the lode appears to be going down more westerly than seen in any other part of the mine, which tells well for the next level. Our pitches are much as last reported. Our engine, pitwork, &c., are all in good working order. —W. DOWNS: Sept. 26.

WHEAL GRENVILLE.—The 85 fm. level cross-cut, driving south, continues to be in granite, and the character of it is much the same as I stated last week. In the 70 cross-cut, driving north, we are not yet through the elvan; but, as I before remarked, it is a little lighter, and there is more water coming from the end than there was, which is a favourable symptom. We have started out the Newton Mine, and the shaft is sunk about 9 fms. below the 18. We have taken up the water preparatory to sinking, but the shaft being very wet after stopping work, I find the men are rather loathe to sink it. There is in the shaft a strong lode, producing spots of tin, and in the south side of the shaft there is a soft granite, which I consider to be a favourable indication, and I am expecting that after the lode gets more into the granite it will be more settled, when I am of opinion we shall see a welcome change. The 18 is extended a few fathoms to the east and west of the engine-shaft. I have brought from the western level this week some splendid stones of tin. The lode going west is very regular, and in the eastern end the lode appears to be entering the granite. After, therefore, looking at the lode, and the change which is now taking place, going from the killa into the granite, and the branches, &c., which are coming into the lode, I cannot but think that the prospects in this part of your property are looking very cheering indeed. —G. R. OGDON: Sept. 23.

WHEAL GUSKUS.—The 70 fm. level, west of engine-shaft, on Guskus lode, continues to yield occasional stones of tin. The 60 west, on ditto, is worth 100 per fm. The stopes in the back of the said level, both east and west of Rowe's shaft, are worth from 140 to 160 per fm. for tin. The 30 fm. level, west of ditto, has much improved, and is now worth 250 per fm. for tin. In the 10 fm. level, west from ditto, we hope shortly to reach the tin ground just discovered in the 20. We have this day sampled 46 tons of copper ore, some part of which is of excellent quality. —G. FRANCIS: Sept. 26.

WHEAL KITTY (ST. AGNES).—The stopes in the back of the 64 fm. level are about 2½ ft. wide, worth 40 per fm. The lode in the 51, east of engine-shaft, is 1 ft. wide, worth 60 per fm. In the 54 end, west of Holgate's, the lode is 3 ft. wide, worth 400 per fm.; this end is now driving under good tin ground for 30 or 40 fms. in length, which will, no doubt, turn out abundance of tin. In the 41, west of cross-course, the lode is 2 ft. wide, worth 120 per fm.; it has a very promising appearance, and is improving in size and quality, producing much water, with every other indication of turning out plenty of tin. The lode in the rise in the back of the 44 fm. level is 2 ft. wide, worth 50 per fm. We have set the end in the 24 fm. level, west of Holgate's, to drive north on the cross-course, at 40 per fm., to cut the lode, and have every reason to believe it is very near us, as a large quantity of water is coming out of the end. Our tribute department is looking much the same as when last reported on. —THOS. CARTER: Sept. 25.

WHEAL LORFORD.—Since last report the engine-shaft has been sunk 6 feet. The silver lode in the bottom of the shaft continues much the same in quality as it has for some fathoms above, but a part of the copper lode is now in the mine, which is producing stones of copper ore and munda; the main part of the copper lode still remains to the north of the shaft. The stopes in the back of the 28 fathom level are yielding about 3 cwt. of silver ore, and 1 ton of copper ore per fm. The 28, east of Malachi's shaft, has been driven 9 ft.; the south part is yielding saving work, but not rich. The copper lode at this point is not yet cut through; the part opened shows good stones of copper ore. The 15 fm. level has been extended 6 ft. east; the lode in the present end is small and poor, and the men are removed from this end to rise in the back, to communicate with the stopes. The stopes in the back of this level are of much the same quality as they were for some time past. The copper tributaries of the cross-course, at the 10 fathom level, are earning a fair wage. The steam engine and crusher are completed, we have commenced crushing and dressing the copper ore at surface, and shall get a parcel of ore ready for the October sampling. We have also commenced to prepare another parcel of silver ore. Since the new balance-bob has been attached to the pumping engine it works much steadier than it did before, and will no doubt effect a considerable saving of coal. —J. NANCE; W. KNOTT: Sept. 24.

WHEAL MAUDLIN.—The water is now as high as the bottom of the 20. There are about 14 tons of copper ore at surface, which may as well be sent to market. I did hope to have got some few tons more to add to it, but the water rose too fast for us to do this. If we can keep the water to the 20, which I hope we shall see by Monday morning, there will then be a pitch set in back of the 10, from rise east to cross-course in the present end. The men whom the water has driven from the end of the pitch will take here, if they can have about half a ton for the pitch, and a rise against the water, and as the ground is worthy of trial this will be advantageous. —W. TREBAT: Sept. 22.

WHEAL POLLARD.—The No. 4 lode in the 11 fm. level, end, driving east of engine-shaft, is now 2½ ft. wide, spotted with copper ore, and showing very promising indications. The engine-shaft is sinking between Nos. 4 and 5 lodes; here, also, we have got two branches spotted with ore, which is an encouraging feature. In the Craddock Moor Mine, adjoining Wheal Pollard, the No. 4 lode in the 40 end west, driving towards Pollard, is worth full 400 per fm. —JAMES NANCE: Sept. 22.

WHEAL SURPRISE.—The 12 fathom end, driving east, is looking first-rate for copper ore; it is impossible to be better unless a course of ore, and this is expected daily. I have no doubt upon reaching the 24 fm. level we shall have copper ore for market, and not a little. By changing the pitwork the wheel works much better. Everything is progressing satisfactorily, and I fully expect within a month from this time to prove that Wheal Surprise is equal, if not better, than many mines that are selling at from 12,000 to 15,000, in this locality. —T. DUNN: Sept. 27.

WHEAL TRELAWNY.—We have set Smith's shaft to sink under the 120 fathom level, for bearers and elstern. The cross-cut in the 120 is extended 6 ft. towards the lode. The lode in the 108, north of Smith's shaft, is 1 ft. wide, worth 120 per fm.; in the same level south it is 1½ ft. wide, worth 70 per fm. In the 98 north it is 1½ ft. wide, worth 80 per fm.; in the same level south it is 1½ ft. wide, worth 70 per fm. In the 80, north of Chippendale's, it is 1 ft. wide, worth 50 per fm. —South Mine: Trelawny's shaftmen have commenced to cut through the lode in the 130 south of the shaft, where we have some good stones of ore; the particulars of its size and value we will give you in our next report. The lode in the 120 south is 2 feet wide, worth 80 per fm.; in the same level north it is 20 in. wide, composed of munda and floor-spar. In the 107 south it is 2 ft. wide, worth 100 per fm. The stopes and pitches are producing much as usual. —W. JENKIN; W. BRANT: Sept. 25.

WHEAL TREVELYAN.—Watson's engine-shaft is now sunk 9 fathoms below the adit level; for the last 9 ft. sinking the ground has altered to a fine blue killa stratum, which is considered very congenial for copper; there is a small branch crossing the shaft, in which there are strong spots of copper ore. The 18 fm. level cross-cut is 1½ fm. level, on Gilbard's lode, is still producing good tin stuff. In the 48 fm. level, west of the old engine-shaft, we are cross-cutting north in search of Samson's lode, which we have not yet intersected. The engine men are getting in the new engine, which will be ready quite in time for our shaft, as we shall have no water under it yet below the 18 fm. level. Our tributaries are going on just as usual. —J. D. OGDON; B. GUNDEY: Sept. 20.

WHEAL TRISTREM.—The 66 end and the 62 cross-cut have been driven as fast as possible, and are without alteration. In the 32 end the lode is still 4 ft. wide, producing tin. In the stopes behind this end the lode is 4 ft. wide, worth 2 cwt. of tin per 100 sacks. We have taken down a piece of the new lode in the 40 cross-cut; it is rather disordered by a run of killa, and not quite so good, but continues the same size, about 1 ft. wide. —J. JENKIN: Sept. 25.

WHEAL ZION.—The lode at Richards's shaft still remains without material alteration. The lode in the 60, east of engine-shaft, is still producing occasional stones of tin, and is not much altered for driving. The lode in the 50, east of Richards's shaft, and in the 40, west of engine-shaft, is without alteration to notice. The stopes in the east and west of Thomas's winze are worth from 150 to 180 per fm. In the 30, west of engine-shaft, the middle lode is looking well, worth 2 tons per fathom. The stopes in the back of this level are looking promising, producing from 1 to 1½ ton per fathom. —JAMES BRAY: Sept. 26.

—There is at present a good quantity of ore broken underground, and by next month there will be from 90 to 100 tons ready; when taken to the ground in the mine is further labour required, and I shall be able to give an estimate of the quantity of ore you may expect regularly. The 30 fm. level, on the middle lode, is looking well, and I hope to see a further improvement in this part of the mine. —JAMES RICHARDS: Sept. 26.

Mr. R. Tredinnick, in his Subscription Circular, says—
The British Mining Share Market is firm—in fact, force of improvements in several of the progressive mines as they become developed, with discoveries constantly being made in Camborne, Illogan, Redruth, Basset, and Wendron, Rosewarne, and Sortridge districts, not only prove the intrinsic value of the mines now at work, but command the attention of capitalists and the public generally to them as sources of profitable investment. The large amount of dividends paid bi-monthly, upon very small outlays, by numerous companies, demonstrate Cornish and Devon Mining to be less hazardous than is too frequently believed and represented by those not generally conversant

dressing-floors become completed, say another year, render this property a dividend and favourite one with the London market. There has already been a large sum of money expended on the mine, and now, in order to work it in a proper manner, there should be a whim erected as soon as convenient, either steam or water, and the stamps applied exclusively to stamping, when more stuff might be stamped, and, in my opinion, tin got out to pay dividends. There are 28 men only employed on the work, not near enough to open ground sufficient to keep this mine in good working order; but, under existing circumstances, they cannot be increased, as the machinery that which has been opened by the present adventurers, I have no doubt but that the mine will prove lasting and remunerative. Great Wheal Vor is selling at a discount of 10s. The large amount of money subscribed for working this adventure, and the highly respectable parties connected with its management, are guarantees that the works will be carried out in a practical and miner-like manner, whilst the funds at their disposal are ample to complete the vast field of machinery required, and render the mines a dividend property. The prospects of this adventure are good, whilst capital embarked at the present price of shares may be regarded as a permanently profitable investment. The next monthly sale of tin will take place on October 6, which will much exceed the last. A new 85-in. engine goes to work this day.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET, London, Sept. 29, 1855.

	£. s. d.		QUICKSILVER.....p. lb.	1s 9½d-1s 10d.
Sheathing and bolts ..p. lb.	0 1 2			
Bottoms	0 1 3			
Old (Exchange)	0 1 0			
Best selected	129 0 0			
Tough cake	126 0 0			
Tin	126 0 0			
South American	112 0 0-113 0 0			
IRON.				
Bars, Welsh, in London ..	9 15 0-10 0 0			
Ditto, to arrive	9 2 6-9 5 0			
Nail rods	10 0 0-10 10 0			
St. Stafford, in London ..	11 10 0-12 0 0			
Bars, ditto	11 0 0-11 10 0			
Hoops, ditto	12 0 0-12 10 0			
Sheets, single	13 0 0-13 10 0			
Pig, No. 1, in Wales	3 0 0-3 5 0			
Refined metal, ditto	— — —			
Bars, common, ditto	8 0 0-8 10 0			
Ditto, railway, ditto	8 10 0-8 15 0			
ditto, Swed. in Lon. toar. 14	0 0 0-0 10 0			
Pig, No. 1, in Clyde	4 1 0-4 2 0			
LEAD.				
English Pig	25 0 0-25 10 0			
Ditto sheet	26 0 0—			
Ditto red lead	26 0 0-26 10 0			
Ditto white	27 0 0-27 10 0			
Ditto patent shot	27 0 0-27 10 0			
Spanish, in bond	24 0 0-24 10 0			
American	— — —			
FOREIGN METAL.				
Swedish, in kegs, to arr. 19	0 0 0—			
Ditto, in faggots	20 0 0-21 0 0			
English, Spring	21 0 0-22 0 0			
Brass (sheets)	12½d.			
Wire	11½d.			

* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—Throughout the past week the flourishing state of the Metal Trade has not been checked in any way requiring particular notice, the raising of the Bank rate of discount having but very slightly affected even the most speculative articles in our market; besides which, nothing whatever has transpired to exercise any depressing influence, there being an active demand for most descriptions of metals at current rates.

COPPER.—Several orders have been given out for shipment, and the smelters are still bountifully supplied with work. The stocks in London are insignificant, consequently purchases can only be made for forward deliveries. Prices have not altered, but are extremely firm. There is very little foreign in our market, and but few parcels spoken of for arrival. The value of ores continues high; next sale at Swansea on the 2d October.

IRON.—In English bars, no variation in price has taken place; the demand continues moderate. The men at some of the works in Wales having struck for an advance of wages, has caused the ironmasters to be backward in the fulfilment of many of their contracts; we believe, however, that arrangements have been made between some of the men and their masters, on the understanding that they return to work at the beginning of the ensuing month. Enquiries for Staffordshire qualities in our market are rather limited; nevertheless, there is a good business doing generally, and considered sufficient by the ironmasters at the quarterly meeting to confirm the anticipated advance of 20s. per ton, which has been established during the past quarter. Scotch-pigs have remained steady, but quiet, at 80s. for mixed numbers, until yesterday, when the market became a trifle weaker, on account of the advanced rate of discount, and mixed numbers drooped to 79; to-day on 'Change there was a partial recovery, and the market closed at 79s. 6d. mixed numbers, g.m.b., f.o.b. in Glasgow.

LEAD.—At the annexed prices we do not hear of any transactions having taken place, but sellers seem indisposed to operate at lower rates. The feeling in our market at the moment is rather languid.

SPELTHER.—From 300 to 400 tons have been sold at gradually improved prices, mostly for shipment to the East; at 23½ 12s. 6d. about 200 tons were taken, and the remainder at 2s. 6d. to 5s. per ton advance, the market on 'Change to-day being firm, at 23½ 17s. 6d. per ton.

TIN.—English quiet; very little indeed doing. Banca and Straits are also neglected, but have not differed in value.

TIN-PLATES. after declining to 28s. 6d. for IC coke, have again rallied, 29s. 6d. being now the lowest quotation, and 34s. 6d. for IC charcoal; the demand is not very great just now.

STEEL.—Nothing offering in Swedish keg.

QUICKSILVER without animation.

GLASGOW, SEPT. 27.—During this week the pig-iron market has been dull, and prices have consequently declined. To-day a considerable business was done at 78s., but the market immediately afterwards rallied to 78s. 6d., 79s., buyers, at which we closed, not much iron offering. The state of the London stock market has had a depressing effect on the price of warrants, but with large shipments, good local demand, and decreasing stock, we fully expect an improvement shortly. To-day's quotations are—No. 1, Gartaherrie, 82s. 6d.; No. 1, g.m.b., 80s.; No. 3, g.m.b., 77s. 9d. Shipments for the week ending Sept. 22:—Foreign, 6522 tons; coastwise, 7149 tons = 13,671 tons. In the corresponding week of 1854 they were—Foreign, 3406 tons; coastwise, 8762 tons = 12,168 tons.

LIVERPOOL, SEPT. 27.—During the past week a fair amount of business has been done, and the tone of the metal market generally is healthy. Scotch pig-iron has been quiet, without any material fluctuation in price, notwithstanding the large shipments from Glasgow (13,000 tons). Ordinarily such extensive shipments tend to give impetus to business, and to raise prices; but such has not been the case this week, owing, probably, to the apprehensions which existed during the earlier part of the week, and to-day realised, of a further increase of ½ per cent. in the rate of discount by the Bank of England. Manufactured iron, in its several branches, also rails, continue to be well enquired for. The Canada brought some extensive orders for bars, hoops, and sheets, at current prices, and the intelligence generally induces to the opinion that a very extensive business may be confidently expected for the coming spring with the United States. Tin-plates, Copper, and Lead are in large request, at our quotations, and for the two latter articles especially the demand is surprising, considerably exceeding the supply. In other metals we hear of no business of importance. The quotations are—Iron: Merchant bar, 81. 16s. per ton.—Tin: Common block, 126s. per cwt.; common bar, 127s.; refined block, 131s. Tin-plates: Charcoal, IC, 33s. 6d. to 34s. per box; coke, IC, 28s. 6d. to 29s.—Lead: Sheet, 25½ per ton; pig, 24½ 10s.—Zinc (sheet), 31½ per ton.—Copper: Bolt and sheathing, 1s. 2d. per lb.; tile and tough cake, 126½ per ton; best selected ditto, 129½.—Yellow metal sheathing, 1s. per lb.

MINES.—A species of panic seems to have taken possession of the stock markets this week, for which the mere pressure for money is scarcely a sufficient cause. It is useless, however, to attempt to analyse it, for nothing is more difficult to account for at times, or more easily got up, than a "panic" in the money or the share markets. The fairs have been gradually falling, railways have been a drag, whilst "Turkish" has dropped altogether nearly 15 per cent. Mining, we are glad to say, has not been affected to the extent which might have been expected, considering the speculative nature of the property, for although a large amount of business has not been transacted, prices generally have been well supported, whilst in a few mines a considerable advance has taken place. The high price of metals gives a great impetus to mining. Lead is rising fast, and

it will probably be much higher before long than it has been for many years; and copper and tin are both at good remunerative prices.

North Robert shares have reached 38 to 40. Rosewarne have been firmer, in anticipation of a good dividend next week. Condurrows have reached 170½, but left off flatter; North Basset, 30; Lady Bertha largely dealt in; East Buller rather in request; West Seton, 47½; Grenville, 2½ to 3; Pedn-an-dra, Carnvannal, and Carnyorth enquired after; West Basset, 31; Devon Great Consols, 410 to 415; Basset and Buller remain about the same; Craddock Moor, 30. In the Alfred district there is not much doing; South Frances, 680; Stray Park, 12; West Providence, 12½; West Sortridge left off at 7s., and in demand.

From the mining districts, our advices are of a favourable character. At West Seton, the 124 west is yielding 20 tons per fathom. At Condurrows, the 30 east has much improved, and other parts of the mine are looking well. At Stray Park, the 50 fathom level, going west in Wheal Francis, is looking better. At Wheal Pollard, the No. 4 level in the 11 f. level end, driving east, is 2½ ft. wide, spotted with copper ore, and showing very promising indications. In Craddock Moor, the adjoining mine, this No. 4 level in the 40 end west, going towards Pollard, is worth 40f. per fathom. At Sortridge, one or two discoveries are announced, one of them being, according to the report, a leader of ore 3 ft. solid. At Hender, it is said the north lode has been cut good, but we have no official report of it. At West Sortridge, the cross-cut south in the 20 is approaching the lode, with favourable indications. From Lydford Consols the reports are encouraging. At North Robert, the sinking of the trial shaft has been resumed, and the lode in the end east in the 20 is 4 feet wide, all saving work; the other parts of the mine are looking well. At Frank Mills, the lode has very much improved in the 45 f. level, both north and south; in the former level it is yielding 10 cwt. of dressed lead per fm.

Having long advocated the sub-division of shares in the large dividend mines into 1024ths, a measure which we consider the increased importance of the mining market and the interests of the shareholders have demanded, we are glad to learn that it is the intention to increase the shares in Wheal Basset, at the account meeting next week, to 512ths. This is one good step, though we would rather have gone further, and had 1024ths, the same number as in Devon Great Consols, and which, as we have more than once observed, are better supported in the market as regards price than any other shares. The Rosewarne meeting will be held on Monday next, and why should not these shares also be subdivided? It only rests with the purser and the shareholders present at the meeting to do it.

DIVIDENDS DECLARED IN SEPTEMBER.

Devon Great Consols.....	£9 0 0	49216 0 0
Wheal Buller	20 0 0	5120 0 0
South Wheal Frances	17 10 0	4340 0 0
West Basset	0 12 6	3750 0 0
South Caradon	8 0 0	2048 0 0
Hingston Down Consols	0 5 0	1500 0 0
Marke Valley	0 3 0	990 0 0
Cwmystwith	5 0 0	640 0 0
Cefn Carn Brea	2 0 0	600 0 0
Wheal Kitty (Uny Lelant)	2 0 0	512 0 0
Wheal Mary Ann	1 0 0	512 0 0
Wheal Charlotte	0 10 0	512 0 0
Carnyorth	0 3 0	307 4 0
Spearhead Moor	1 0 0	250 0 0
Linares	0 10 0	5000 0 0
Peninsular	0 2 6	3125 0 0
Lusitanian	0 2 6	1250 0 0
Total		£39,612 4 0

The following is the Official List of the week:—

SATURDAY, SEPT. 22.—Condurrow, 145 to 150; Carvath, 3 to 3½; Frank Mills, 2½; Lady Bertha, 1½ to 1½; North Robert, 36; Tamar Consols, 2½; West Seton, 460; West Sortridge, 6s., 5s., 5s. 6d., 6s. 6d.; Wheal Buller, 630; Wheal Trefusis, 9½.

MONDAY.—Condurrow, 160, 170, 160; East Buller, 7½ to 8; Lady Bertha, 35s., 37s. 6d., 35s.; North Basset, 29½; North Robert, 38; Rosewarne, 240, 232½, 235; Stray Park, 11½ to 12; Tamar Consols, 2½ to 2½; West Sortridge, 5s. 6d. to 6s.; West Frances, 20½; Wheal Buller, 640.

TUESDAY.—Carnyorth, 3½ to 3½; Craddock Moor, 30; East Basset, 42½; East Buller, 7½; Great Sortridge, 10s.; Lady Bertha, 37s., 40s., 34s., 35s., 36s., 40s., 41s. 3d.; North Robert, 39, 37, 38, 39, 39½, 40; Rosewarne, 230; Rorrington, 2s. 3d.; South Zion, 6s., 7s., 5s.; South Tolgus, 80 to 85; West Collacombe, 13s. 6d. to 13s. 9d.; Wheal Arthur, 14 to 14½; Mary Ann, 36; Wh. Trelawny, 21½; Wh. Grenville, 2½ to 3.

WEDNESDAY.—Alfred Consols, 14; Lady Bertha, 40s. to 37s. 6d.; North Basset, 30; North Robert, 39, 40, 38, 39; South Carn Brea, 7½; Stray Park, 12½; Sortridge Consols, 6½, 6½, 6½, 7; South Zion, 6s. 3d. to 6s. 9d.; West Frances, 20½ to 18½.

THURSDAY.—Condurrow, 160; Cargoll, 16½; East Buller, 7½; Ivy-bridge, 30s., 31s., 32s.; Lady Bertha, 38s. to 40s.; Rorrington, 1s. 9d., 1s. 7d., 2s., 2s. 6d.; Sortridge Consols, 6 15-16 to 7; Tamar Consols, 2½; Trefusis, 2½; West Frances, 20½; Wheal Grenville, 2½.

FRIDAY.—Carnyorth, 3½ to 3½; Vale of Towy, 19s. 6d.; Condurrow, 162½ to 152½; Trefusis, 2½ to 2½; Lady Bertha, 1½, 17s. 6d.; Hender, 4½ to 5½; North Robert, 39½; West Seton, 470 to 476; Trelawny, 22; Forest Mine, 7½; Tineroff, 3½; Mary Ann, 37½; Wheal Kitty, 37½; West Basset, 31; Tamar, 2½, 2½, 2½; North Basset, 29½ to 30; West Sortridge, 7s.

The following business has been done on the Stock Exchange, although the greater portion of the transactions do not appear in their List. At the beginning of the week a fair amount of business was transacted, but this portion of the mining market showed yesterday the effect of raising the rate of discount at the Bank of England; for, although prices were pretty well maintained, the number of shares changing hands was small:—

SATURDAY.—Lady Bertha, 32s. 6d. to 35s.; West Sortridge, 4s. 6d. to 5s.; Sortridge Consols, 6½ to 7; West Collacombe, 12s. 6d.; Sortridge and Bedford, 5s. 6d.; Great Wheal Vor, 16s. to 16s. 6d.

MONDAY.—North Basset, 29 to 29½; Sortridge Consols, 6½ to 7; Lady Bertha, 32s. 6d. to 35s.; West Sortridge, 4s. 9d. to 5s. 3d.; North Sortridge, 10s. 6d. to 11s. 6d.; East Sortridge, 5s. to 6s.

TUESDAY.—Wheal Zion, 40s.; Sortridge Consols, 6½ to 7; North Basset, 29½; West Sortridge, 5s. to 5s. 3d.; Lady Bertha, 1½ to 2; Trefusis, 2½.

WEDNESDAY.—West Collacombe, 12s. 6d. to 15s.; Great Wheal Vor, 16s.; Lady Bertha, 37s. 6d.; West Sortridge, 5s.; Sortridge Consols, 6½ to 7; Rorrington, 1s. 9d. to 2s. 6d.; Tamar Consols, 2½; Trefusis, 2½; Lusitanian of Portugal, 2½; South Australian Scrip, 2½.

THURSDAY.—Sortridge Consols, 7; Lady Bertha, 38s. to 40s.; West Sortridge, 4s. 9d. to 5s. 3d.; North Basset, 29½; Rorrington, 1s. 7d., 1s. 9d., 2s., to 2s. 6d.

FRIDAY.—Great Crinnee, ½ to ½; Lady Bertha, 38s. to 39s.; Lusitanian, 2½; Lelant Consols, 1½; Buller and Basset United, 5; South Buller and West Penstruthal, 2½ to 3; Grenville, 2½, 2½, to 3; North Busy, 6; Boiling Well, 18; Great Fortune, 9; Clowance Mines, 75 to 77½; Great Wheal Vor, 15s., 16s., 17s.; South Crenver, 25s.

The arrivals of the precious metal in England during the week have been:—From Boston, per Canada, \$511,518; from the Peninsula, per Madrid, \$7000; from Sydney, per Duke of Northumberland, 6848½, or 1712 ozs. of gold. The withdrawals of specie from the Bank have been to the extent of from 200,000l. to 300,000l. The latest prices quoted for the precious metals are:—Dollars, 5s. 0½d. per oz.; bar silver, 5s. 1½d. per oz. standard; ditto holding 5 grs. of gold, 5s. 1½d. per oz. standard; bar gold, 77s. 9d. per oz. standard.

At South Caradon Mine meeting, on Tuesday, the accounts for May and June showed—Balance last account, 1487½ 13s. 1d.; copper ore sold, 7047½; commission on timber, 17. 1s.—8375½ 14s. 1d.—Mine cost and merchants' bills, 4859½ 5s. 10d.; purchases and agency, 107½ 16s. 6d.; lord's dues, 376½ 9s. 1d.; leaving balance in favour of mine, 2232½ 2s. 8d. A dividend of 2048½ (5s. per share) was declared, and the remaining 1184½ 2s. 8d. carried to the credit of next account. The profit on the two months' working was 1744½ 9s. 7d. Capt. Peter Clymo, jun., reported that the mine was still looking well, and he had every reason to look forward to a continuance of the present dividends.

Cwmystwith Mine paid a dividend of 640f. (5f. per share) on Wednesday. A dividend of the same amount was declared on July 26.

Cefn Carn Brynwyn Mine declares its first dividend of 600f. (3f. per share).

At Wheal Charlotte meeting, on Monday, the accounts showed—Balance from last audit, 3904½ 5s. 4d.; sale of copper ore (less 65½ 16s. 1d., lord's dues), 1217½ 14s. 10d.—1008½ 9s. 2d.—Mine cost for July, 421½ 3s. 7d.; Aug., 318½ 2s. 4d.; merchants' bills, 118½ 16s. 4d.; leaving balance in favour of adventurers, 749½ 16s. 11d. A dividend of 512f. (10s. per share) was declared, and the balance of 337½ 16s. 11d. carried to next account.

At the Hingston Down Consols meeting, last week, a dividend of 5s. per share was declared. It was erroneously stated that a call to that amount was made. The mine is divided into 6000 shares, 3½ 7s. 6d. paid, on which 3½ 7s. in dividends have been already returned, and the present price is 11f.

At Wheal Tedydy meeting, on Wednesday, the accounts showed—Balance last audit, 181½ 1s. 11d.; mine cost for June, 169½ 1s. 11d.; July, 171½ 4s. 8d.; merchants' bills, 125½ 16s. 10d.; sundries, 6½ 9s. 7d.—652½ 13s. 6d.—By sale of copper ore, 288½ 14s. 2½; calls received, 37½; leaving to next account, 328½ 13s. 4d. The arrears of calls due are 178½. A call of 2s. per share was made. Capt. W. Roberts and D. Lanksbury report that, within the last two months, the prospects of the mine have improved; they sampled about 15 tons of ore on Wednesday.

At Wheal Kitty (St. Agnes) meeting, on Sept. 20 (Mr. Thos. Biagood in the chair), the accounts showed—Tin ore sold, July, Aug., and Sept., 1720½ 16s. 9d.; copper ore sold, 59½ 8s. = 1780½ 4s. 9d.—Balance last account, 160½ 4s. 3d.; mine cost, June, July, and August, 1531½ 18s. 6d.; merchants' bills, 224½ 6s. 9d.; law cost, 35½ 1s.; London expenses, secretary's salary, and discounts, 211½ 7s. 2d.; leaving balance against the mine, 134½ 15s. 7d. The amount of liabilities over assets was 496½ 12s. 10d. The agreement with Capt. Wm. Burgham having terminated, the committee recommended that 50f. should be paid him for his services. Capt. W. Thomas, of the Arundell Mines, and formerly of East Pool, was appointed agent of the mine. Capt. Thos. Carter's report was considered favourable, and the prospects of the mine good. The estimated returns of black tin for the next two months is 22 tons. A later report, under date Sept. 25, will be found in our Mining Correspondence.

At East Wheal Rose meeting, on Monday, the accounts showed—Balance from last account, 3108½ 4s. 2d.; mine cost and merchants' bills, April, May, and June, 1258½ 10s. 11d.—15,693½ 15s. 1d.—By ore sold in May, June, and July (less dues), 8104½ 5s. 6d.; call in June, 3105½; leaving balance against the adventurers, 4183½ 9s. 7d. A call of 4s. per share was made.

At Devon and Cornwall United Mines meeting, on Wednesday (Mr. J. Hoppwood in the chair), the accounts showed—Balance from last account, 335½ 3s. 10d.; mine cost for July, 278½ 6s.; August, 282½ 2s.; merchants' bills, 6s., 183½ 11s.; carriage of tin, 107½ 4s. 4d.; materials sold, 2½ 5s. 6d.; leaving balance against the adventurers, 433½ 1s. 8d. Capt. R. Williams, H. Rogers, and J. Williams, reported that they hoped to raise as much tin for the next two months as they had for the past two. The slope in the back of the 53, on Allen's branch, was worth 10f. per fathom. At Lydford Consols general meeting, on Thursday, the accounts showed—Balance last account, 54½ 11s. 8d.; call in arrears at last meeting, 320½ 10s.; call made at ditto, 786½ 5s. = 1120½ 8s. 6d.—Monthly cost, 411½ 1s. 1d.; office and committee, 15½ 9s. 3d.; discount on calls, 4½ 13s. 3d.; call in arrears, 514½; leaving balance, 175½ 3s. 1d. As there would be sufficient funds, if all the calls were paid, to carry on the mine for the next two months, no call was made, but it was resolved to hand the names of all defaulters at once to the merchants, unless the amounts owing by them were paid forthwith. The reports from the mine are extremely favourable. Capt. Richards reports that the lode in Ward's winze "is as fine as can be seen," and that "a more promising lode cannot be seen in the two counties." He also states, that in the celebrated Wheal Betsy (to the south of Lydford Consols) they had no lead of importance until they reached about 25 fms. deep from the surface, "where they had a lode 5 feet wide, of solid lead." Capt. Ware (who worked in Wheal Betsy, and has been engaged in lead and other mines for nearly forty years), states, that the lode is the finest and most promising he ever saw; and that at Wheal Betsy, which he says, returned many thousands of tons of lead, the prospects are so good, that he would not nearly so encouraging as the lode at Lydford Consols. The sinking of the shaft is being pushed on as fast as possible (now down 16 fms. under the adit), and in the next level it is expected valuable discoveries will be made.

At Boringdon Consols general meeting, on Monday, the accounts showed—Balance last account, 268½ 18s. 9d.; calls in arrears at last meeting, 141½ 6s. 6d.; call made at ditto, 614½ 13s. 3d.—Monthly costs, 668½ 17d. 9d.; office and committee, 397½ 7s.; printing, 4½ 8s.; bank commission and stamps, 21½ 16s. 10d.; calls in arrears, 191½ 14s.; discount on calls, 5½ 14s. 1d.; leaving balance in favour of mine, 81½ 15s. 7d. A call of 2s. 6d. per share was made. The shaft is down 71 fms., and is being pushed on as rapidly as possible, and at 3 or 4 fms. deeper a cross vein will be driven to cut the lode under the elvan, the result of which is expected to be very favourable.

At South Wheal Crofty meeting, on Monday, the accounts showed—Balance last audit, 355½ 11s. 8d.; copper ore sold, 787½ 6s. 5d.; tin, 47½ 4s. 11d.; arrears, 4s. 1d.—1399½ 7s. 1d.—Mine cost for June, 219½ 15s. 4d.; ditto for July, 264½ 11s. 11d.; tribute balances, 370½ 5s. 9d.; merchants' bills and dues, 141½ 6s. 6d.; leaving balance in hand, 409½ 7s. 5d. Capt. W. Rutter and F. Gilbert consider the prospects as improved since the last meeting. They have 44 men and 4 boys on the work, and about 20 men on tribute.

At the Boiling Well Mine meeting, on Thursday, the accounts showed a balance of 1038½ 6s. 8d. in favour of the adventurers. The report from Capt. Reynolds was considered highly satisfactory.

At East Sortridge Consols Mining Company meeting, on Monday (Mr. Nicholls in the chair), the accounts showed a total liability of 239½ 9s. 4d. A call of 6d. per share was made. Mr. W. L. Webb, the secretary, was appointed managing director, and the proceedings, which are detailed in another column, terminated with a vote of thanks to the Chairman and committee.

At Esgrair Myrny Mine meeting, on Thursday (Mr. George Holmes in the chair), the accounts showed an available balance of 239½ 8s. 6d. The meeting was convened to consider the propriety of recinding a resolution passed in December last, preventing the directors from issuing shares without the consent of a general meeting, but the discussion was deferred for a month, pending a further report from the mine. [A detailed report will be found in another column.]

At Wendron Consols Mine meeting, on the 19th inst. (Mr. F. Hill in the chair), the accounts showed—Balance from last audit, 256½ 15s. 8d.; mine cost, Jan., 471½ 3s. 7d.; Feb., 420½; March, 400½ 15s. 6d.; April, 399½ 3s. 8d.; merchants' bills, 823½ 3s.; lord's dues, 82½ 6s.—2853½ 7s. 5d.—Calls received, 512½; &c. sold, 2066½ 11s. 2d.; leaving balance against adventurers, 274½ 10s. 3d. A call of 9s. 9d. per share was made. Capt. Bray was appointed agent to the mine, at a salary of 9s. 9d. per month. Capt. T. Bray and Mr. Perry reported the satisfactory progress of the mine. The stopping and tribute departments were working favourably, and it is anticipated that the dead parts, which have occupied a considerable time, antedated heavy expenses, having been got over, should the new lodes about to be worked prove as productive as previous ones, the returns will be considerably increased.

At Wheal Gilmar meeting, on the 19th inst., the accounts showed—Mine costs, June, July, and August, 436½ 13s. 9d.; merchants' bills, 161½ 4s. 9d.; to Creechbrowse adventurers for engine, stamps, pitwork, floors, frames, biddies, &c., 680½—1276½ 17s. 6d.—Calls received, 24½ 11s. 3d.; leaving balance against the adventurers, 1232½ 6s. 3d. A call of 11s. per share was made. Capt. W. J. Williams and J. Morcom reported that they had commenced building the engine-house, and that the shaft was to be finished in about six weeks. They had laid open many fat veins of tin; and, looking at the prospects of the mine, they expected, as soon as the machinery is complete, to meet the current expenses, and leave a profit to the shareholders.

The Algoed Consols Slate Quarries Company adjourned general meeting, convened for Monday, owing to the smallness of attendance, was written adjourned until Oct. 8. In the

These are strong opinions, but at the same time the indications appear to justify the expectation of a profitable result. The 13th level north has been driven a few feet only, and has produced some saving work; but the main object is to get down to the level, towards which they have sunk 3 fms. below the 13. Notwithstanding these very encouraging prospects, the shares are merely nominal in price. We should think far below their intrinsic value. We fear that some concerns, owing to high premiums, and before almost a pick has been put in the ground, are not entitled to attention than such promising speculations as Lydford Consols. On the other hand, we cannot fail to remember that every one of our rich dividend mines have been at one time "drugs in the market." At the general meeting held on Thursday, no call was required.

From Calstock Consols, a box, containing copper ore and lead, has been forwarded to London. The lode is making way in the back, and has a most beautiful appearance; the pile of ore at surface is the admiration of every miner who has seen it. What a relief to one's mind is this discovery, after so many years' hard work.

Every one is now giving the adventurers credit for their perseverance. From Okol Tor Mine, some fine specimens of copper ore have been sent to London. The lode in the 35 fm. level, although at present containing a quantity of waste, improves in character every foot driven. The fine-looking ore already broken gives ample proof that there is scarcely a lode in the country which promises to be richer than this mine.

We understand that a company has been formed to work an extensive and valuable piece of mineral ground, immediately adjoining North Wheel Robert, and south-east of Sortridge Consols. The mine will be called South Wheel Robert. There are four lodes in the set, which is also traversed by the North Wheel Robert. The lode is of the same character as the neighbouring, and the importance of fact that at the present moment the Tavistock district stands pre-eminent for its successful progressive mines, the shares are being eagerly sought after.

The list of directors of the Great Wheel Busy has been completed, and will be found in our advertisement columns. From the known respectability of the parties, great confidence is placed in the adventure, and we are informed that the shares during the week have been enquired after rather freely.

At the Vale of Towry general meeting, which will shortly take place, we understand a dividend of 1000l. will be declared.

The Tamar Silver-Lead Mining Company have convened their annual general meeting for Monday next, and the Inney Consols half-yearly meeting for the following Thursday.

During the week, shares have changed hands in the following:—

DIVIDEND MINES.—Alfred Consols, Carnarvon, Condurrow, Devon Great Consols, Drake Walls, Lewis, Merilyn, North Wheel Basset, Rosewarne, South Tolgus, South Wheel Frances, St. Aubyn and Grylls, Stray Park and Camborne Vein, Tincroft, Tamar Consols, Trebarn, Treveltha, West Basset, West Wheel Soton, Wheel Arthur, Wheel Buller, Wheel Killy, Wheel Mary Ann, Wheel Trelawny, Mining Company of Ireland, Newtonards Mining Company, Wicklow.

MINES WHICH HAVE SOLD.—Bedford Consols, Bell and Lanarth, Brynford Hall, Cardon Consols, Carrigill, Carradock Moor, East Buller, East Goldcoppe, Gwanton Consols, Great Sheba Consols, Herward United, North Wheel Robert, Rorington, Sortridge Consols, South Carn Brea, Vale of Towry, West Polberron, West Sortridge, West Wheel Frances, Wheel Grenville, Wheel Hender, Wheel Trefusis.

MINES WHICH HAVE NOT SOLD.—Bodell, Cefn Gwyn, Clowance, Dun Raven Consols, Forest Wendon, Great Sortridge, Lady Bertha, Nant-er-Nelle, South Wheel Robert and Sortridge, West Collocombe, Wheel Surpise.

In Foreign Mines, the market has been firm. Cobalt Copper was dealt in on Tuesday at 65½; on Wednesday, several transactions were effected at 66 to 67, but were slightly weaker yesterday, as they only reached 66. In St. John del Rey, no business has been done throughout the week, and the closing price was marked 35 to 36. The other securities of this description changing hands yesterday were:—Lusitania, at 2½; and notwithstanding the announcement of the call of 12 per cent. Royal Santiago, at 4. The closing price of Imperial Brazilian was 2½ to 3; National Brazilian, 3 to 3½; Clarendon Consolidated Mining Company of Jamaica, 4 to 4½; Copiapo, 18 to 20; Fortuna, ½ to ¾; Linares, 7 to 7½ ex div.; United Mexican, 3 to 3½.

At the Linares Mining Company meeting, on Wednesday (Mr. James C. Johnson in the chair), the accounts to June 30 showed—Profit on six months' working, 6555s. 3d., and balance to same date, 21,478s. 6d. A dividend of 10s. per share was declared. The report and accounts were unanimously adopted; and the proceedings, which are detailed in another column, terminated with a vote of thanks to the Chairman.

At the New Granada Mine general special meeting, on Thursday (Mr. C. Johnson in the chair), the revenue accounts of Frontino and Bolivia Mines showed—Gold dust sold in London (January to June, 1855), 7850s. 13s. 9d.; stock of ore, 899s. 13s.; interest of account, and profit on gold purchases, 1911s. 11d.; 6866s. 2s. 8d.—Mine costs, 5391s. 7s. 8d.; Medellin expenses, 7611s. 11s. 10d.; London office, 5331s. 1s.; leaving a net profit on the half-year, 2280s. 2s. 2d. The secretary read the report, which adverted to the satisfaction the shareholders would feel at the state of the company's works. Those now completed, being in regular operation, were yielding a decided excess of income over expenditure, and it is expected that the results of the next half-year, by the gradual completion of the works in progress, and the improved working of those in operation, would present the most favourable results. Besides the expenses incurred in working the mine, 1518s. 13s. 3d. had been laid out in improvements at Frontino, with the object of augmenting the future returns. Owing to the profitable results attendant upon the crushing of ore remains, the directors were induced to sanction the construction of a 12 stamps-head mill, which is now getting fairly to work. Among other improvements in progress, the directors refer particularly to the increased and constant supply of water to the mill; to the roads and waggon ways for the carriage of minerals from the mine, and to the crushing-mills, all of which will be eventually the means of considerable saving. The works in progress at Frontino will shortly be completed, and its capabilities more clearly known; added to which, changes in the management are being effected to reduce the current expenditure. A considerable increase in the returns from Bolivia further justify the expectations of its value to the company. The report concludes by notifying the retirement of Mr. Whiteford, their superintendent, who is succeeded by Mr. R. Fairbairn, of Liverpool.—The Chairman moved the adoption of the report, and commented briefly on its principal features, his opinion being that they would be enabled to declare a dividend at the next half-yearly meeting. The directors had done all in their power to curtail the expenses, and had so far succeeded, that in the half-year just past their profits were computed at from 7 to 7½ per cent.; and when the works at present in hand were finished, they had determined not to commence any others, so that the shareholders might look forward to a dividend. Several questions were put to the Chairman by shareholders on specific mine and other charges, which were satisfactorily answered; and the meeting terminated with a vote of thanks to the Chairman and directors.

At the North-Western Mining Company of Lake Superior meeting, held at Pittsburgh, Pennsylvania (Mr. C. Anschutz in the chair), Messrs. J. K. Moorehead, C. G. Hussey, T. M. Howe, J. M. Cooper, and H. N. Walker, were re-elected directors until the next annual meeting. From the reports of the directors and Mr. John Sawson, the agent, which were read by the secretary (Mr. James M. Cooper), it appeared that the extraordinary advance in the price of copper, had somewhat embarrassed all mining enterprises, whilst the derangement of monetary affairs had prevented, in many instances, calls from being so promptly responded to as usual. Although the company had not been exempt from these circumstances, it had been enabled to maintain an adequate working force, without drawing further from the pockets of the shareholders; and the directors having conferred with Mr. Sawson on the exact condition of the mine, had every reason to congratulate them upon the steady and decided improvement in the character of their vein, as the mine was deepened and extended north, in which direction there appeared to be, at all points, a fine lode of barrel and stamps copper. The sinking of the engine-shaft to the 30 fm. level, and the completion of the pumping arrangements, were progressing satisfactorily. Eight additional heads of stamps had been added, just doubling the number previously in use. The quantity of mineral realised during the past year had been fully up to their expectations, and the result in pure copper had been entirely satisfactory, being about 62 per cent. net, exclusive of a small per centage yet to be extracted from the slags. The quantity shipped to the docks of the navigation in November last, was 139 bbls. of stamp copper, weighing 77,375 lbs.; 69 ditto, 30 fm. level, and 39 ditto, 20 fm. level, weighing 20,794 lbs.—250,763 lbs. This copper, when smelted, produced 354½ ingots of pure copper, weighing 154,900 lbs., and sold for \$32,266 68c., or about 25½ c. per lb., cash in Cleveland. The charges for freight, smelting, labour, &c., amounted to nearly 10 per cent. on net proceeds. The mass copper averaged a little over 1900 lbs. per mass. The inventory of assets showed—Supplies, &c., \$19,017 18c.; buildings and machinery, \$26,475; and landed property consisting of 1600 acres of mineral land, and two lots at Eagle Wharf, for warehouse and stable.

The Altan Mining Association have received their mining report from Aug. 26 to Sept. 5.—At RAIPAS, the water is still in the bottom workings, and, owing to the late rainy and cold unsettled weather, it has not materially drained since the date of our last report. In the shallow adit the tributaries continue to make small but remunerative returns of rich ore, and this part of the mine looks better. The 10 fm. level workings there is no change, the returns being still small. At the Old Myny, Bergmeister's stopes yields from 3½ to 4 tons of ore per fm., and the lode looks pretty well, where clear of the side. In the eastern stopes the lode yields about 3½ tons of ore per fm., and continues about the same size as before. In the westward level the lode is again small and poor; we purpose coming back, where it shows more promising, and put a rise up to the east stopes, which will be necessary for clearing the latter, and which will also prove, at the same time, whether any of the lode is struck from the part we have been driving on. The shallow adit was holed to the east working last week, and the men have commenced driving on the lode, which presents much the same appearance as last reported.—At the UNITED MINES, there is no change in the south level. The tribute returns (as will be seen from the above estimate) continue small, but we hope when the men return from unloading the vessels to clear the old workings, and then expect more remunerative results.—At MICHAEL'S, the draining of the old shaft and workings proceed favourably; we are now about 5 fms. under the base of the shaft, and hope in a fortnight or three weeks to reach the bottom. The adit is still without change.—At RYKAS, the small lode alluded to in my last continues promising, and the tributaries are making satisfactory returns from it. The estimated produce for Aug., 1855, was—

Mines. Tons. Per Cent. Copper.

Raipas 38 6½ 2-47

Old Mine 110 5 5-50

United Mines 3 6 0-18

Micah's 3 5 0-15

Rykas 8 6 0-48

Total Tons 163 8-78

The Wildberg Great Consolidated Mining Company have received ad-

vice to Sept. 20.—At the West Mine, Beck's winze, sinking below the deep adit level, east from the south cross-cut, is producing full 9 tons of silver-lead ore per fathom.

The winze in the deep adit level from 4½ to 5 fms., all of which is most

productive ore ground. The lode, driving east from the 10 fathom level, at the Elmen-

gang sink, will produce 3½ tons of silver-lead ore per fathom. No. 3 bottom stop-

ing producing 2 tons of silver-lead ore per fathom. At the East Mine, the sinking of

Carter's engine-shaft under the 40 is progressing rapidly. The water in the bottom

of the shaft is much the same as last reported, but the ground is somewhat harder.

The branch driving east from Carter's shaft, in the 40, is producing 1 ton of silver-

lead ore per fathom. Dean's winze, sinking under the 20, is producing 1 ton of silver-

lead ore per fathom. The Weitung stopes, in the 20, east of Michael's shaft, is pro-

ducing 2 tons of silver-lead ore per fathom. The Dornergang stopes, in the bottom

of the 15, east of Michael's shaft, is producing 12 cwt. of silver-lead ore per fathom.

The axle of the water-wheel will be put in its place this week; it would have been placed before this, but the engineer has been engaged in putting in the engine at the engine works for the blast-furnace, which has caused the delay. Our surface works throughout the mine have progressed well this week. The greater part of the 20-in. lift is brought on the mine, and also the 12-in. lift.

The Lusitania Mining Company are in receipt of Capt. Thomas Chegwain's usual report on Falhal, dated Sept. 17.—The ground in Taylor's engine-shaft, sinking below the 8 fm. level, is rather harder than it has been. The lode in the 8 fm. level, east of Taylor's engine-shaft, is 1 foot wide, worth 1½ ton per fathom. The lode in the stopes No. 1, west of Roy's winze, in the back of the 8 fm. level, is 2 feet wide, worth 1 ton per fathom. The lode in the stopes No. 2, west of Taylor's engine-shaft, is 2 feet wide, worth 1½ ton per fathom. The lode in the stopes No. 3, east of Roy's winze, is 1½ foot wide, worth 1½ ton per fathom. The lode in the adit level east, in the eastern hill, is 2½ feet wide, worth 1 ton per fathom of black ore. The lode at the old shaft, on the House lode, is 1 foot wide, worth ½ ton per fathom for lead. The lode in the adit level, driving west of the river, on the same lode, is 2 in. wide, composed of flookan, &c. The lode in the middle level, on the Mill lode, is 9 in. wide, worth ½ ton per fathom.

The Pontgibaud Silver-Lead Mining Company have received a report from Capt. Rickard, dated the 24th inst. At Pranal, the men working in the 70 metre level south, on the Henri lode, have cut a large stream of water, and say that it is washing out rich stones of ore. The two stopes in the back of the 70 are still looking well. At Barbecot, the men working in the 70 metre level, from which ore is being raised, and the stopes are yielding well. At Barbecot, the old water-wheel has been replaced by a new one. At Mioshe, the new steam-engine was set to work on Friday, and all the water has already been drained from the bottom level. The building of the engine-house at John's shaft would, they expected, be finished in 15 or 18 days. The stopes in each of the mines were yielding good returns, and they expected the ore sent to surface this month would exceed any previous month. They had not weighed all the August ore, but would finish the next day. It would be—at Rosier, about 120 tons; at Barbecot, 20 tons = 140 tons.

The Liberty Mining Company have advice from the Vaulouse Mine to Aug. 31. The make of gold had been 50 cwt. 3 dwts., value \$1003, working half the stamps half-time only, in consequence of the want of labour, which was still much felt; hands were, however, dropping in from harvest-work, and it was confidently expected that the entire number of stamps would very shortly be enabled to be kept in full operation day and night.

The Waller Gold Mining Company (Virginia) correspondence has been discontinued some time, in consequence of their superintendent having had his thigh broken by an unfortunate railway accident. He is now proceeding towards recovery, and has reported that the new works are progressing, and that the "old works" at the mine-shaft proceed equally satisfactorily; the stopes now reaches the depth of 20 ft. Mr. de Blesing, who has been sent to the mine, from which operations are being carried on, reports that the mine is very rich, and that large quantities of very valuable ore are expected to be obtained. All other things are progressing. I have had to erect a corn-house, there not being one on the mine; and we are proceeding to gather in the fodder. Mr. Golding concludes—"I hope, by the blessing of the Almighty, to be able to be removed home in a fortnight from this time, when I shall not fail to make up by increased diligence for the time I have unavoidably lost."

The Rocky Bar Mining Company have advice from Virginia to Aug. 13. The agent reports that "23½ tons of quartz, taken from the main drifts, have yielded 232 ozs. of amalgam, giving 136½ ozs. of retorted gold, sold for \$2237, being at the rate (within a few cents) of \$90 per ton. The same good appearance of the rock continues as we go on. The rock we are driving through appears at least as good as the last; and the rock below the level of the drifts seems even better in quality than what we have above." Mr. Satterthwaite informs us this rock is taken out 119 feet below the surface. At the 78 ft. level the rock is worth \$25 per ton. Does not this upset the theory of some of our geologists about veins of gold?

From California (Aug. 17), we learn that gold dust is scarce, as nearly all that reaches San Francisco is sent to the mint to be coined or made into bars. The shipments of gold on the last four steamer days, by both routes, was \$8,998,000. The yield of this year, as calculated, this excess is owing to the improved modes of extraction brought into use. There are complaints of the water being scarce in some localities, and a correspondent of one of the newspapers writes from the Central Mines that the diggings in his neighbourhood "are as dry as a contribution box." But notwithstanding this partial and temporary misfortune, the miners are, on the whole, doing better than in any previous year. The prosperity of the country, also, generally is materially advancing.

The Gold Mining Share Market has exhibited an improvement during the week. On Monday, business was done in Colonial Gold at ¾, and Nouveau Monde at ¾. On Tuesday, in Australian, at ¾ to ¾, and yesterday, in Anglo-Californian, at ¾. The closing price of Agua Fria was ¾ to ¾; Anglo-Californian, ¾ to ¾; Colonial Gold, ¾ to ¾; Great Nugget Vein, (registered), ¾ to ¾; Liberty, ¾ to ¾; Mariquita, ¾ to ¾; Nouveau Monde, ¾ to ¾; Port Phillip, ¾ to ¾; Quartz Rock, ¾ to ¾; Waller, ¾ to ¾; West Mariposa, ¾ to ¾.

In Miscellaneous Shares, a very fair amount of business was transacted yesterday, the following being official quotations of the day:—Australian Agricultural, 29½; Canada, 132 to 160. It will be seen by the above, the panic in the market for Canada Land shares continues, and was accelerated yesterday by large sales, the result being a further fall of 20l. on the previous day, as although business was done at the price, 8 per cent. preference, issued at 100l., ½ ditto 0½ pm.; Peel River Land and Mineral, 2½ to 2½; Scottish Australian Investment, 1½ to 1½; ditto, new, 1½ to 1½ pm.; South Australian Land, 3½ to 3½; Submarine Telegraph, Scrip, ¾ to ¾; ditto, Registered, ¾ to ¾. In Joint-Stock Banks, business was active yesterday, in Bank of London at 51; City, 54 to 55; London and County, 39½ to 39; London Joint-Stock, 33; Oriental Bank Corporation, 41; Royal British, 50; Union of Australia, 70 to 69½; Union of London, 29½. In other securities of this description the closing prices were—Australia, 87 to 89, ex div.; Chartered Bank of Asia, ¾ dis. to ¾; Chartered Bank of India, Australia, and China, ¾ to ¾ dis.; English, Scottish, Australian Chartered, 16½ to 17½; London Chartered Bank of Australia, 13½ to 14; ditto, New, ¾ to ¾ dis.; London Eastern Banking Corporation, par to 2 prem.; New South Wales, 35 to 36; Provincial of Ireland, 52 to 54; South Australia, 40 to 41; Union of Australia, New, 8 to 9.

The salt-petre market continues quiet, at last week's quotations. The week's delivery amounted to 264 tons, leaving the present stock on hand 6837 tons. The quantity which remained warehouse in the year 1854 was in excess of the bulk now in stock by 1914 tons, although the residue held was deficient in the year 1853 by 3954 tons; in 1852, by 3347 tons; and in 1851, by 3927 tons. The imports of 1855, up to the 38th week, are minus those of the year 1854 by no less a quantity than 5547 tons, and of 1853 by 1397 tons. The home consumption in 1854 was 10,960 tons, opposed to 6567 tons during the last named period in the preceding year. The present price of refined salt-petre is 42s. to 43s. per cwt.; second quality and inferior, 36s. to 39s.

In American securities, there has been an inactive market during the past week. The securities in this country, being held for investment by strong holders, have not been much affected by the rise in the rate of interest, especially as the rate obtained from the investment on sound bonds of dividend-paying and prosperous roads yield fully 7 per cent. There is no prospect of bonds on this market from America. We note moderate investments in Illinois Central Construction Bonds and Michigan Central East Port Cement Bonds. The Erie Railroad, and New York Central Bonds, at about previous rates. Great Western of Canada are firm, owing to the satisfactory character of the accounts and the great increase of traffic, which lead to the conclusion that the present dividend of 8 per cent. will not only be maintained but increased.

The bidding for the 4000 tons of coal, required by the Spanish Government at their arsenals of the Isle of San Fernando, near Cadix, took place last week at the Spanish Consulate in London. The lowest offer was 27s. 8d. delivered on the quay, and it has been submitted to the Government at Madrid. The price is considered very low, as the freights are now at Cardiff 16s. to 17s. per ton, and they are likely to go higher, as the only cargo that can be got at Cadix is salt, which price is considerably risen, and will go still higher in the month of October, as by the end of November no more will be found ready for shipment.

The arrivals at Swansea include—from Caldera, 1812 bars of unwrought copper, 852 bags of silver and copper regulus, and 82 tons copper regulus (in bulk); from Havre, 1441 bags of copper ore.

The bill for granting a charter to the Oriental Gas Company has passed the second reading of the Legislature at Calcutta.

CHECK TO SPECULATION IN FRANCE.—For some time, a number of applications have been daily addressed to the Minister of Commerce and Public Works in Paris, some for concessions, others for authorisations, implying the issue of new scrip; but the Government of the Emperor, taking into consideration the extent and importance of enterprises already in hand, has determined, for the present, not to grant any new concessions or authorisations.

LEEDS, SEPT. 27.—We have to report continued activity in mining shares during the week. Shares in the Craven Moor Mining Company, which were 22s. 6d. last week, fell to 18s. 6d. at the commencement of this week, but have since recovered on purchases to 21s. buyers. Penrose Consols have fallen 10s. per share, and close 22s. 6d. to 25s. Yorkshire Mining Company, 8s. to 9s.

We beg to hand you the following description of the Craven Moor Mine, for the information of your general readers.—This mine is situated in the manor of Applethorpe, in the West Riding of the county of York, on the high ground between the Rivers Nidd and Wharfe, about four miles from Pateley Bridge, and eleven from Skipton. It is in a celebrated lead district, and is surrounded by productive lead mines. To the west are the Pan Carl, Gillhead, Stony-Nook, and other mines; to the south, the Burhill Mines; to the east, the Cockhill Mines; to the north-east, the Stony-Groves, Merryfield, Prosperous, and Providence Mines; to the north-west are the Vane Knott Mines, and at the distance of about four miles are the Grassington Moor Mines. Craven Moor is an extensive grant, and includes the greatest part of the ground which has formerly been worked in three separate grants—viz., Craven Cross and North Rake, Craven Moor, and Blackhill Mines. There are a great number of veins and strings in this mine; the principal ones at present known are Craven Cross Vein, Rich Vein, Good String, Stony's String, Arch String, Hargrave End Vein, North Rake Vein, Woodhouse Vein, Watson's String, South Vein, Redhill Vein, Drunken Vein, Lodge Vein, Middle Vein, South Lodge Vein, Hog Vein, East Cross Vein, Middle Cross Vein, West Cross Vein, Blackhill Vein, Sun Vein, Fox Holes Vein. The principal stratum in this mine is a limestone, upwards of 400 feet in thickness, and the above veins have all been productive in it, having yielded several thousands of bings of lead ore. They have principally been worked from the surface by shafts, and it was only in a few places that the old works were deeper in the limestone than 20 fms. when this company leased the various sets.—FLETCHER AND CO., 103, Woodhouse Lane.

HULL, SEPT. 27.—The effect of the Bank putting on another ½ per cent. to-day has been precisely what has occurred on other occasions—that is, to make the market better instead of worse, simply because the effect has been anticipated by previous sales of stock. The fact is, so much intelligence is directed to the share market, that everything is worked up into results before the expected event comes. The opinion seems to be that things are at the bottom for the present.—E. W. FLEET AND CO.

LEAD ORES.

Sold on the 13th September.			
Mines.	Tons.	Price per ton.	Purchasers.
Nantoes and Penrhilw	16½	£ 15 0	Walker, Parker, & Co.
Sold on the 21st September.			
Newtonards	100	£15 15 0	Walker, Parker, & Co.
Sold on the 23d September.			
Wheal Mary Ann	75	£25 15 0	Sims, Williams, & Co.
Herodafot	50	15 18 0	ditto
Talisien	20	16 18 0	J. P. Eytan.
Sold on the 24th September.			
Cwmystwith	100	£16 10 0	Walker, Parker, & Co.
Bwlch Consols	25	18 5 6	ditto
ditto	22	16 7 6	ditto
Sold on the 26th September.			
North Wheal Trelawny	22	£16 5 0	Walker, Parker, & Co.
ditto	18	3 3 0	Sims, Williams, & Co.
Ticketing at the King's Head Hotel, Holywell, 27th September.			
Pantymwyn	13	£16 3 6	Newton, Keates, & Co.
Pentymwyn	13	16 0 0	ditto
Westminster	50	16 8 0	J. P. Eytan.
Maesysafn	85	16 1 6	ditto
Mina	120	16 12 0	Newton, Keates, & Co.
ditto	100	16 12 0	Walker, Parker, & Co.
Oreod	10	15 13 0	J. P. Eytan.
Llanerchraur	37	16 16 0	Newton, Keates, & Co.
Caeconroy	3½	17 5 6	ditto
ditto	3½	17 5 6	Walker, Parker, & Co.
Rhoswydol	7	16 10 6	ditto
Caylan	18	14 15 6	ditto
ditto	4	12 15 0	ditto

BLACK TIN.

Black tin sold from EAST WHEAL MARGARET during the year 1855:—			
January 10	Tons c. q. lb.	Price per ton.	Amount.
February 10	4 17 0	£59 12 6	£186 6 6—Chyndaw.
March 10	4 2 8	57 0 0	276 12 0—ditto
April 14	10 7 0	54 17 6	583 0 0—ditto
May 16	4 6 2 6	53 0 0	238 0 0—Treloweth.
June 13	4 13 0 10	56 5 0	261 16 0—Chyndaw.
July 18	6 8 2 2	57 10 0	369 9 6—ditto
August 4	8 0 2 15	50 2 6	474 17 6—ditto
September 12	3 16 1 35	59 2 6	226 1 6—Mellancar.
October 7	3 6 2 10	61 0 0	204 15 0—Angarrack.
November 15	2 4 2 1	61 15 0	137 8 3—Treloweth.
December 15	2 11 1 8	61 0 0	157 16 2—Chyndaw.
1855	7 11 1 22	63 7 6	479 17 10—ditto

Sold on the 18th August and 22d September.			
Mines.	Tons c. q. lb.	Price per ton.	Amount.
Wheal Enys	1 11 0 19	£68 12 6	£106 18 11—Calenick.
ditto	1 10 2 2	65 15 0	100 6 0—ditto
ditto	1 5 1 15	39 0 0	49 9 11—ditto
ditto	3 19 0 1	70 0 0	276 10 7—ditto
ditto	0 18 0 3	51 0 0	45 19 4—ditto
ditto	1 4 2 6	39 0 0	47 17 7—ditto

Sold on the 21st September.			
Mines.	Tons c. q. lb.	Price per ton.	Amount.
Pen-dan-drea United	1 7 0 4	£74 0 0	£98 13 6—Bolicho.
ditto	1 10 0 25	69 0 0	104 3 6—ditto
ditto	0 2 2 19	60 0 0	8 0 0—ditto
ditto	1 5 0 16	73 0 0	91 15 3—Williams.
ditto	1 3 2 11	69 0 0	81 8 3—ditto
ditto	0 4 0 16	60 0 0	12 8 0—ditto

Sold on the 22d September.			
Mines.	Tons c. q. lb.	Price per ton.	Amount.
Wheal Trevelyan	3 0 8 0	£71 10 0	£213 10 0—Bolicho.
ditto	0 11 0 21	53 0 0	—ditto
Wh. Kitty (St. Agn.)	5 18 2 9	68 10 0	406 2 9—Daubuz.
ditto	0 5 2 2	80 0 0	13 15 10—ditto

Sold on the Mine.			
Polberron	20 0 0 0	£68 12 6	£1372 10 0—ditto

COPPER ORES.

Sampled September 12, and sold at the Royal Hotel, Truro, September 27.

Mines.			Mines.		
Tons.	Price.		Tons.	Price.	
Perran St. George	70	£3 18 6	Consolidated	37	£2 17
ditto	67	3 18 0	Fowey Consols.	123	11 17
ditto	63	2 13 0	ditto	100	8 12
ditto	62	3 3 0	ditto	80	9 2
ditto	58	11 14 6	ditto	79	9 2
ditto	57	1 16 0	ditto	63	8 11
ditto	51	3 2 0	South Caradon	63	8 11
ditto	50	4 2 0	ditto	66	17 4
ditto	47	3 16 6	ditto	52	7 19
ditto	38	4 11 6	ditto	51	14 9
ditto	20	1 13 6	ditto	37	5 4
ditto	18	2 16 6	ditto	27	17 8
United Mines	103	4 17 6	Perran United	63	1 14
ditto	102	5 0 6	ditto	54	3 6
ditto	85	6 5 0	ditto	46	2 7
ditto	84	4 7 6	ditto	30	2 2
ditto	63	6 14 0	ditto	22	1 6
ditto	40	12 17 6	Wheal Clifford	113	5 12
ditto	38	4 2 0	ditto	19	11 12
ditto	28	5 5 6	ditto	17	13 8
ditto	24	5 5 6	ditto	7	4 3
ditto	16	1 14 8	Great Crinnis	58	10 6
ditto	13	3 7 6	ditto	51	5 3
St. Day United	110	7 16 6	ditto	11	20 18
ditto	102	7 2 0	Pemb. & East Crinnis	56	3 13
ditto	90	8 13 0	ditto	55	6 3
ditto	73	5 17 0	West Crinnis	42	5 2
ditto	54	11 13 6	ditto	18	13 14
ditto	53	6 2 6	Trevisey	35	5 10
ditto	47	10 12 6	North Wheal Busy	23	6 16
ditto	27	2 0 6	Wheal Eliot	13	2 10
ditto	15	23 6	ditto	4	4 17
Consolidated	98	5 19 6	East Wheal Leisure	17	4 1
ditto	95	4 5 0	Wheal Jewel	10	5 16
ditto	94	7 9 0	Unity Wood East	6	6 0
ditto	69	5 13 6	Pencroft Consols	5	3 13
ditto	65	3 16 6			

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly filed on receipt: it then forms an accumulating useful work of reference.

SALES OF ORES.—We are preparing our usual Statistical Returns of the Sales of Copper, Tin, and Lead Ores, for the quarter ending Sept. 30, and shall feel greatly obliged for all particulars that may be furnished. Pursers and others are reminded, that by accurate returns being forwarded to us on the termination of the quarter, the produce of their mines being properly reported will be insured, and the occasional complaints of inaccuracy avoided.

PRACTICAL MINING—THE NEWCASTLE VIEWERS.—Sir: I am constrained to address you this week, and through your Journal the public. In a long letter from Mr. Matthias Dana, Government Inspector, are found these words:—"The practical viewers of this district (Newcastle) are universally acknowledged to stand unrivalled in this kingdom, or even upon the Continent." &c. This is assuming very much, and I think is scarcely worthy the pen of Mr. Dana, for whom, by the way, I acknowledge, in common with others, much esteem. I have seen works both underground and at surface of collieries in Wales, in Somersetshire, and in some of the north-western districts that, in my opinion, defy parallel in Northumberland, where the local strata renders the extraction of coal more easy than in almost any other locality of Great Britain. It is true that the northern basin is more frightfully surcharged with fire-damp than that of any other county, but all the remaining mining conditions are simple and easy indeed when compared with other coal fields. Alas! Mr. Editor, the viewers of the North exhibit but little proof of skill in contending against this fearful danger; human life is but cheaply held in the North. In respect to the very important operation of unwatering deep mines, the county of Cornwall is half-a-century in advance of Northumberland and Durham.—A VIEWER: Sept. 26.

TREATMENT OF GOLD ORES.—Sir: Fire, with lead, &c., will obtain gold from ores in which not a particle is visible by a powerful glass, but what could mercury do with such ores? Mr. Mitchell will confer a favour by explaining how he would cause mercury to act with such ores. It does not appear possible for mercury to take up gold unless in a palpably metallic state.—R. BYERS: *Dolgelly*, Sept. 26.

MR. LOW'S PATENT.—Sir: When I saw the works in action at Cwmhelian (in Mr. Baldwin's time), the plan was not identical with Mr. Low's patent, as the ore was smelted by blast in a cupola, with wood fuel.—R. BYERS: *Dolgelly*, Sept. 27.

IRON SHOT, SHELLS, AND CANNON.—Sir: There has been a paragraph in the *Times*, and other papers, headed "Britten's Patent Shells," which are identical copies of the new cannon shot and shells of mine, submitted to the Board of Ordnance in Sept. 1851, all the difference being, the iron shot or shell are first coated with zinc instead of tin; the heading and all the rest of the projectiles are, form and all, precisely the same as mine. Britten's shot are said to range "1000 yards more than round shot, and that with half the usual charge of powder." So much for the official experiments at Woolwich and Shoeburyness. Nasmyth's wrought-iron guns are a failure, but it is no proof that efficient artillery of large dimensions cannot be made of wrought-iron; the fault has been too much reliance on the steam-hammer. I had a drawing of a wrought-iron gun, prepared for exhibition to the Select Committee at Woolwich, when I went there this time last year, to show a specimen of my new shot or shell, weighing 81 lbs.; but I saw clearly that the committee would not listen favourably to any project from a civilian, so I said nothing about it, only that wrought-iron guns of any length or calibre may be made "never to burst under any charge of gunpowder," and by which means a large artillery may be converted into gigantic Minie rifles.—S. B. ROGERS: *Nant-y-Glo*, Sept. 26.

POLAR CHANGES.—Sir Edward Belcher read two very interesting papers at the British Association, which tended to prove that large trees grow at a comparatively recent period in the lands of the Arctic regions. He found large stumps of trees there, with their roots still attached to the soil; also many organic remains, showing most distinctly, that the land in the Arctic regions were formerly in a more congenial climate. Some of the geological lions present could only account for such changes by supposing that the globe was much hotter formerly. Others considered such facts as corroborative of Mr. Hopkins's polar movements; but the latter could not be accepted, inasmuch that if Mr. Hopkins is right all other geological facts are wrong, and it would upset all the systems which Prof. Ramsay could not admit, and he left it to the meeting to decide who was right. Mr. Hopkins stated that he could cover with the point of his finger, on a globe 6 ft. diameter, the whole of what they knew of the globe, which caused much merriment.

NEW SOUTH WALES COAL COMPANY.—Sir: Can any of your readers inform me what the committee of management have done for the poor shareholders? There must be considerable funds in hand—why not divide them among us, and wind-up the concern?—V. A.: *Leeds*, Sept. 25.

DUSTON IRON ORE COMPANY.—Sir: I am quite willing for Mr. T. C. Hinde to take all the benefit that may arise from his waspish note, in your last week's Journal, on the subject of the Duston iron ore, just, however, observing that he has thrown himself between the horns of a dilemma, with respect to the proportions of earth and oxygen in the calcined ore he experimented upon; for if the proportions of earth be reduced 6.66 per cent., the amount of oxygen will be increased in the same ratio, and the fuel required to smelt 1 ton of iron from such ores will remain just the same; therefore, to work up these ores in Northamptonshire, with coal at 13s. to 15s. per ton, would unavoidably end in a disappointment, unless some new method of smelting should be discovered for that special purpose, or richer samples of ore are found than those submitted for experiment to Mr. Hinde.—S. B. ROGERS: *Nant-y-Glo*, Sept. 26.

MODEL OF A LEAD MINE AT THE CRYSTAL PALACE.—Sir: It appears singular that so many people have been to the Crystal Palace, and never met with the model of the lead mine, and still more strange that the company's officials can give no information where it is to be seen. An account of the minerals, as well as the model of the lead mine, was published in the Journal of July 21. If those of your readers who wish to visit the model of the lead mine will go to the Geological Institute, in close proximity to them they will find an artificial strata of the coal formation: in close proximity to this is the lead mine, and when I visited it there was an intelligent attendant, who lucidly described it.—YOUR OWN REPORTER.

MANGANESE.—Sir: Will any one be kind enough to point out the advantage of peroxide of manganese in the proportion of the 100th part in the smelting of auriferous ores, according to Mr. Low's patent?—B. R.: *Sept. 27*.

NORTHAMPTONSHIRE IRONSTONE.—Sir: I notice, in your Journal of last week, a vague and almost incomprehensible letter from your correspondent, Mr. W. Elliott, of Blisworth, and am more disposed to imagine it would afford him greater pleasure to hear a "practical observation" about "bread and slag" than any information relative to the smelting of Northamptonshire ironstone. However, giving him credit of good intentions, I briefly reply that the only beneficial method in smelting the ironstone alluded to is by itself, in suitably constructed furnaces—namely, keep the throat open, the boshes moderately high, and the tuyeres about 18 in. in which opinion I am supported by that eminent and scientific person, Mr. W. Trueman, C.E., of Marazion, Cornwall, author of the work entitled *Iron Manufacture of Great Britain*, to the perusal of which I invite the special attention of your correspondent. Were I to reply to his other questions (some of which he is best able to answer himself), I fear you would only consider it an intrusion on your valuable columns.—THOS. LUCAS: *Duston*, Sept. 26.

BLAENAVON IRON AND COAL COMPANY.—Sir: A letter from Mr. Hill informs me of an error in the remarks on the subject of the Blaenavon meeting, on the 19th inst., at page 608 of your last Journal—viz., "that two gentlemen (Messrs. Steel and Hill) came forward as the responsible parties, and the business of the meeting was allowed to proceed." You will, I feel sure, in your next, do me the favour to correct the error in question, when I said that I did not attend. As best of my belief did Mr. Hill, come forward as responsible for anything connected with the meeting in question.—C. WILSON STEEL: *Lewisham*, Sept. 27.—P.S. I may add that I knew nothing of Mr. Banks till I saw him in the room, and have not the slightest knowledge of his party, represented as Co.

DUSTON IRON ORE COMPANY.—Letters on the management of this company's affairs can only appear as advertisements. The discussion would evidently assume a too personal character to be of interest to others than those immediately concerned.

THE GENERAL ANNUITY ENDOWMENT ASSOCIATION.—This association comes under the Friendly Societies Act, passed last session; and having a capital of nearly 300,000l., are desirous of investing it, from time to time, in the most secure manner, as parties insuring with them participate in their profits. By a most extraordinary alteration made by the House of Lords in the Act, if any Friendly Society depositing money with the Commissioners for the Reduction of the National Debt, withdraws any portion of it, it is prohibited from again investing in that security. As best of my belief did Mr. Hill, come forward as responsible for anything connected with the meeting in question.—C. WILSON STEEL: *Lewisham*, Sept. 27.—P.S. I may add that I knew nothing of Mr. Banks till I saw him in the room, and have not the slightest knowledge of his party, represented as Co.

SOUTH BOG MINE.—Sir: I hold a large number of shares in the South Bog Mine, in the county of Salop, in the list of whose directors were recently to be found the names of Messrs. Charles Powell (firm of Powell and Cooke), C. T. Christian, and Adam Murray, F.R.S., gentlemen in whose integrity I was led to place implicit confidence, and in whose hands I have always considered my interests perfectly secure. You may, then, readily conceive the astonishment and dismay with which I received intelligence of their having suddenly sold all their shares, abandoned the trust reposed in them, and created a panic which threatened to overwhelm the adventure in irretrievable ruin. On enquiring from Mr. Joseph (the secretary) the cause of this most unexpected proceeding, I was informed that Mr. Powell, having entered largely into mining adventures in Tavistock, was desirous of combining his operations to that locality, and had determined on withdrawing from other speculations; but I was assured that there was nothing whatever wrong with the mine itself, which was in all respects as promising as it had been represented. Dissatisfied with this information, I waited for further particulars until the quarterly meeting, advertised to be held on the 26th inst., at which the shareholders were told that the parties had retired through a suspicion that they had been deceived by the captain (Samuel Morris), whose reports were considered more flattering than the real state of the mine warranted. I am not prepared to say whether the statement tendered in their defence is true or otherwise, as they were not present at the meeting, but being unwilling to condemn any one unheard, and feeling that some explanation is due to the shareholders, whose property has been so seriously injured, I take the liberty of calling upon those gentlemen for further information through your Journal.—ALEX. DUNCAN: *Sept. 27*.

"C. W." (Hoxton).—The naphtha manufacture in England, as at Wolverhampton, where the late dreadful accident took place, is from artificial substances. The native consists of carbon and hydrogen, is nearly colourless, occasionally yellow and transparent, and burns with a white flame, emitting much smoke, giving out a penetrating odour, and leaving no residuum. It dissolves resins, but is not itself soluble either in alcohol or ether. In Persia and the Burmese dominions it is found in large quantities; they state there is in Rangoon upwards of 500 naphtha wells, which yield annually upwards of 400,000 cwt. It is especially useful in the manufacture of varnish, and from its facility of drying is preferred to oil in oil painting. It is employed in removing spots of grease from woollens and other stuffs, but the smell it emits is difficult to destroy. Near the Caspian, and elsewhere in Persia, it is generally used instead of oil in lamps; and under a variety of denominations it has become subservient to the same purposes in Europe.

Sir: Will you inform me if Capt. Wm. Martin, in reporting upon Whet Bay, to your valuable Journal of last week, means the Great Whet Bay United (Limited), of which I have just seen a prospectus? The same enquiry relates to some remarks by "An Old Miner" (Chacewater), and headed "Great Whet Bay."—Z.: *City*, Sept. 27.

DUSTON IRON ORE COMPANY.—Sir: I must confess that the explanation of Mr. T. Lucas appears to me but a very meagre apology for the misfortune that has occurred to this company. If a gentleman be appointed as managing director, it must be evident to any party of common sense that to attempt to lay the blame upon subordinates is a very sorry way of excusing himself. Mr. Lucas, I contend, had the management of the company's affairs. Could it be expected that lawyers, sitting at the board as directors, understood much of brick-making, tile-making, or mining? and was it unreasonable that they should place implicit confidence in their manager? Such a course of proceeding, I think you agree with me, is pursued every day; and I can only add, that thousands, like myself, invest their capital in mining, depending solely upon the integrity of the manager.—AN ORIGINAL SHAREHOLDER: *City*, Sept. 26.

"An Old Subscriber" (Leeds).—We fear the mine alluded to is not of such great value as to warrant the extraordinary business that has been done in the shares throughout the week; and from the fluctuations, our correspondent may be right in assuming that a considerable amount of jobbing is going on.

COMBINED REVERBERATORY FURNACES.—A description of Mr. Addison's furnaces, as constructed at the Greenside Lead Smelting Mills, will appear in an early Journal.

CARNAVONSHIRE SLATE COMPANY.—"J. W."—We are unable to supply the information required by our correspondent, as the managers in London refuse, upon the ground that it is a private company. The meeting will be held at 5, Church-passage, Guildhall, on Wednesday next; and if "J. W." be a shareholder, he can obtain admission.

"A Subscriber" (Liskeard).—The transaction referred to reflects great discredit on all concerned. If the shares were subscribed for in the mine at St. Ives, the promoters had no right further to appropriate any more of the free share. The persons who subscribed have clearly a right to their scrip, such having been agreed upon at public meeting; the self-constituted committee of management and the pursers have no right to do them. Whatever denomination the mine may receive, its being in the neighbourhood of St. Ives will be sufficient to warn those interested in mining not to embark in the speculation, unless they have a perfect knowledge of their co-adventurers and the directors of the company.

DUSTON IRON ORE COMPANY.—The remarks of "A Shareholder" on Mr. Lucas's statement can only appear as an advertisement.

"C. M. W's." (Hamburg) letter only having reached us on Friday afternoon, the necessary enquiries could not be made in time for our present Journal, but his questions shall be attended to, and probably replied to in our next. He is requested to remit by draft on a house in London. The yearly subscription is 12. 6s.

GREAT OSNOLW CONSOLS.—"A Mining Inspector," of Bristol, who is likewise a shareholder, complains that this mine has been greatly mismanaged. The writer states that, when Mr. Absolom Bennet took up the mine, in 1851, a dividend was declared, in order to enhance the value of the shares; he complains that the reports which have lately appeared in our Journal are meagre and brief, affording no information to the shareholders; and, further, recommends that the proprietors should look to their own affairs, or appoint some competent agent in whom they can place confidence. There are only 30 men at work, where 300 should be employed. He avers that, if properly managed, monthly samplings should now be made; and, after entering into several local and practical details, urges the necessity of a reform in the present system of management.

HINGTON DOWN CONSOLS.—By strange inadvertence, it was stated in last week's Journal that a call was made at the Hington Down Mine meeting, instead of a dividend being declared.

ASTURIAN MINING COMPANY.—Sir: I know not whether Mr. Mackenzie has yet returned from his trip to Paris, where his friend, "Justitia," states he is at present sojourning. The shareholders should call on Mr. Samuel Amory and Mr. William Campbell Gillan, the trustees: the former gentleman has offices in Throgmorton street; the latter has, or had, chambers in Lincoln's Inn-fields. This last gentleman ought especially to render us justice: at the time the company was first projected, he was very active in its formation, and no doubt reaped the reward of merit. Subsequently, we heard nothing of him, until Mr. Moore and the liquidator made a stir: he then gallantly threw himself in the breach, whether for a consideration or not remains to be seen when the accounts are examined, and which it is now high time should be looked to. This I do know, that when the trustees were appointed, he volunteered to make the arrangements with Senor de Grimaldi, in conjunction with his brother trustees, for which he not only received a vote of thanks, but something more substantial, in a vote of a considerable sum of money out of our exhausted and shrinking capital. Whenever a dividend—we will not say of profits, but where something has been divisible—took place, we found Mr. William Campbell Gillan. As something may yet be saved from the wreck, in fairness, he ought to assist the shareholders in their present dilemma: if anything is to be got from Senor de Grimaldi, either for the proprietors or himself, past experience tells us he is there the right man in the right place.—NEMO: *Sept. 27*.

MR. DAVID MUEHET, on the Blaenavon Iron and Coal Company; Mr. A. H. Patterson, on Mine Drilling; on Mining Speculations in America; Reasons why Railways should Pay: Does Coal Exist near London? and several other papers, are unavoidably postponed.

* For the accommodation of our City correspondents, communications or reports may be left at Messrs. HANCOCK and SHARP'S, No. 20, Tokenhouse-yard, where there is a box to receive them; but in all instances it will be preferred that they be sent direct to the office, 26, Fleet-street.

THE MINING JOURNAL.

Railway and Commercial Gazette.

LONDON, SEPTEMBER 29, 1855.

The reports of the six Inspectors of Coal Mines, for the year 1854, to Her Majesty's Secretary of State, presented to both Houses of Parliament by her command, has been just published, and present on the whole very conflicting results as to the increase or diminution of casualties. While Mr. MATTHIAS DUNN, in his retrospect of the first half of the last year, seems to consider the diminished number of aggregate deaths by accident, notwithstanding the progressive increased production of coals, a proof of the successful working of the late Mines Inspection Act in his district, which comprises the counties of Durham, Northumberland, and Cumberland, he admits in his report for the last half-year of the period, that the account he then furnishes does not exhibit a material diminution of the aggregate amount of fatal cases. Mr. DICKINSON, in his report of the working of the Coal Mines Inspection Act in the Lancashire, Cheshire, and North Wales district for the first half-year, regrets an increase in accidents, and in killed, as compared with the corresponding months of the previous year. By his report of the second half-year, as contrasted with the same months of 1853, it would appear that fatal cases had increased, but that the increase was mainly in those accidents which are most within the managers' control, while there is a diminution in those which almost entirely depend upon the workmen, from which he draws his fair assumption, "that the men are becoming more careful than their masters." Mr. MORTON, in his report for the first period of 1854—which portion the report alone comprises—with respect to the counties of York, Derby, Nottingham, Leicester, and Warwick, states that "it is satisfactory to observe a gradual diminution of fatal casualties, notwithstanding the increase that has lately taken place in the working pits and miners employed." The report of Mr. WILLIAMS, for Scotland, for the year 1854, shows that during the year there has been an increase of deaths from all causes, and that nearly all that number come under the head "miscellaneous." Mr. WYNNE's report for the first half-year, with respect to the counties of Stafford, Worcester, and Salop, states that explosions of fire-damp have not been frequent nor particularly fatal, only 15 lives having been lost; "but this," he observes, "is more owing to the absence of carburetted hydrogen gas than to any particular care that is taken to provide against its presence." He further reports that deaths caused by the fall of coal and roofs amount to the fearful number of 73, and "will continue numerous so long as the present system of getting the thick coal prevails." In his report of the last half-year of 1854, he, however, states that "it is no slight satisfaction to note the sensible decrease in the number of accidents and consequent loss of life." By an unaccountable arrangement, the report of Mr. HERBERT MACKWORTH for the latter part of the year is made to precede the report for the first half, necessarily tending to create confusion, an error with which a gentleman of Mr. MACKWORTH's known accuracy cannot possibly be chargeable, but which we must attribute to official carelessness. Although the number of accidents in the southern districts for the early period corresponded exactly with the average of the last three years, the number of deaths was less in the proportion of 62 to 85, while in his second report Mr. MACKWORTH regrets that he was unable to repeat the favourable statement which he had made respecting the number of accidents in the first half-year of 1854.

So far, therefore, as the sacrifice of human life is involved, this series of reports does not furnish much ground for congratulation. It must, however, be borne in mind that the collieries of Great Britain were never so extensively worked as during the period they comprise. However casualties may appear to vary in the several districts, Mr. DUNN has published in his report a satisfactory table of the results of the preceding six half-years, which shows that during the three first half-years the deaths from explosions amounted to one in three in the aggregate, while in the latter the proportion has diminished to one in nine, and in the half-year ending June 30, 1854, the loss by explosions was only one in fourteen. The aggregate deaths, notwithstanding the progressively increasing pro-

duction of coals, was 27 per cent. in the first half-year of 1854, within his extensive and important district, below the average of the last six half-years, which favourable state he did not so much attribute to the actual inspection as to the salutary influence produced by the existence of the law, and to the general feeling of improvement which prevailed. In submitting to the Government this extraordinary local diminution of accidents, and especially those from explosions, he expresses an opinion that the appointment of any more inspectors is not only unnecessary, but that it would, by dividing the duties, tend to diminish the importance of the office in his, the most influential and exemplary district; while in his second report he adds that the ordinary routine of accidents are of such a nature that they could not be counteracted by any amount of detailed inspection. Mr. DUNN has, however, endeavoured to procure the adoption of an apparatus to be affixed to the cage, the invention of Messrs. WHITE and GRANT, engineers, Dalmarnock, Glasgow, the object of which is two-fold; first, to arrest the cage in case of the breakage of rope or chain, by a pair of teeth wheels, which grasp the spurs or sides; and secondly, in case the cage is about to be wound over the pulley, a disengaging apparatus, similar to that upon the pile driver, takes effect, and the former apparatus arrests the cage. In addition to the recommendation of so experienced a public officer as Mr. DUNN, whose opinion is entitled to the highest weight, we are told that every coalmaster in Scotland has more or less of these contrivances. Its cheapness, and the number of accidents the prevention of which by the patent safety cage is amply attested, render it so valuable that we hope to see it generally adopted also in the collieries of England.

Mr. DICKINSON, in his earlier report, laments a total increase within his district of 17 accidents and 51 persons killed; but it must be remembered that the period comprises the second great explosion in the Arley Pits, at Ince Hall, Wigan. The fatal catastrophes which have occurred in that highly fiery mine have been the subject of elaborate discussion in the columns of this Journal, and a considerable portion of Mr. DICKINSON's first report is devoted to the enquiry. We strongly recommend his observations and suggestions to the careful perusal of those to whom the management of extensive coal mines in which danger is to be apprehended is confided. Simplicity in ventilation seems to be the maxim of the management which Mr. DICKINSON recommends, and his vast general experience, combined with the peculiar attention which he has paid to this important branch of coal mining, render his opinions and illustrations deserving of marked attention.

Mr. DICKINSON, in his second report, alludes to the law as laid down in the House of Lords, in the Scotch appeal case of PATTERSON v. WALLACE, to which we have repeatedly referred, and acknowledges the benefit which Lord PALMERSTON was prepared to confer by authorising a civil proceeding for damages at the suit of HANNAH PALKINSON, widow, against the Moss Hall Company, at Wigan, for the loss of her husband by an explosion of fire-damp, arising, it would appear, from the wrongful act, neglect, or default, of the managers of the pit, in which the deceased had no way participated. Although the result of this proceeding does not appear, Mr. DICKINSON makes the following important announcement—"By finding funds for thus putting the law in motion, and showing the soundness or otherwise of the decision, I feel confident that your lordship has taken the first great step towards reducing accidents in coal mines." In this observation we fully concur, and the example cannot but produce a salutary effect, when it is known that the Government is disposed, in an aggravated case, to supply funds in order to obtain redress for the widow and orphans of a sufferer in a criminal instance of colliery explosion.

The report of Mr. MORTON is very elaborate: it contains some painful details in connection with the catalogue of fatal casualties in his district, and it would be unjust not to tender the tribute of our approbation to the zeal and energy displayed by him at inquests under very trying circumstances. In conclusion, however, he turns with satisfaction to the more agreeable duty of stating that at many of the collieries in his district, and especially among the larger ones, important reforms are in progress relative to the ventilation, machinery, management, and discipline of pits; liberal and well-directed educational efforts are being made for the moral and mental amelioration of the labourers; and in some localities improvements have been commenced in the sanitary arrangements of mining villages, which promise to be highly beneficial to the health and domestic comfort of the inhabitants.

Mr. MORTON has appended to his report a copy of the excellent regulations recently introduced by the colliery viewers of Northumberland and Durham, and also of those proposed by mining engineers in the Midland counties; and as the Coal Inspection Act of the last session expressly provides for the framing of special rules applicable to the peculiar circumstances of every colliery, there will be but little difficulty in complying with that provision, if due attention be paid to the regulations now so judiciously presented to the public.

We have in another part of our present Journal referred to the statistical information supplied by Mr. WILLIAMS, and which furnished some of the materials for a very valuable paper read before the British Association, at Glasgow. We receive with satisfaction his acknowledgment in the present report, that of late years the improvement in Scotland in colliery engineering has been very marked in every department of science, ventilation, machinery, underground conveyance, and general arrangement: upwards of nine-tenths of the working pits are now fitted with guides and cages, although twenty years ago there were very few pits so provided. This is particularly alluded to, as no other improvement has so much contributed to the general safety of pitwork as the introduction of the cage, with perpendicular guides to prevent oscillation; and while the use of guides and cages is now nearly universal, covered cages and safety apparatus are also in use at many of the better conducted collieries.

As coal is the main stay of the trade of South Staffordshire, Mr. WYNNE naturally complains that 37 lives lost in six months by shaft accidents reflect but little credit on the owners of mines and collieries within that district. While no other district exhibits so melancholy a list of human sacrifices, it appears that less care is employed to ensure safety and preserve life than in any other. It is well observed by Mr. WYNNE to be within the power of man to case the shafts with bricks and mortar, to put conductors in the shafts, and cover the cages the men descend in—to use ropes instead of single link chains, and have proper pit frames to fence shafts when worked out, and to fence by night those that are only used in the day. "If," he observes, "these and such like precautions were taken, I confidently assert the deaths in shafts in my district would be much nearer 7 than 37." Mr. WYNNE states his concurrence with Mr. DICKINSON as to the cause of the last melancholy catastrophe at Ince Hall—that it arose from too keen a desire on the part of the manager to introduce the northern system of working into Lancashire, without having a thorough knowledge of its practical effect on the ventilation of the mine. A system well adapted, no doubt, for the flat seams of Northumberland and Durham may be highly dangerous in a mine that dips nearly 6 ft. in the yard, as is the case with the mines at Ince Hall.

The careful readers of this Journal cannot be strangers to the meritorious and indefatigable exertions of Mr. HERBERT MACKWORTH, and to his philanthropic efforts to improve the social and educational condition of the mining population of England. To his present reports we are indebted for the fact that an example is afforded in Belgium of the extent to which one class of accidents, those arising from fire-damp, may be reduced by efficient legislation, where the proportion of accidents to the number of workmen employed was diminished in five years by more than one-half, although the difficulties of mining were increased by reason of the greater depth and extent of the mines. As falls of roofs and coal constitute so large a proportion of the total number of accidents, Mr. MACKWORTH naturally expected that they would occupy a chief place in any amendments of a future inspection bill; we fear, however, that in this respect he will find himself disappointed by the Act of the last session. Mr. MACKWORTH, in his reports, exhibits very refined and scientific knowledge, acquired by extensive study and careful observation, both at home and abroad, and possesses all the qualifications for introducing judicious reforms into the existing system of coal mining in Great Britain. His prior publications were devoted to the educational improvement of the mining classes, and in his present report he impresses with the weight of official authority in the importance of the subject on the Members of the Government. Appendix No. 3 to his earlier report will be found some interesting communications with respect to the formation of a Mining School at Bristol—an institution which it is the aim of Mr. MACKWORTH to establish, and in which highly-desirable object he is sustained by a committee of the coalmasters of the district. In appendix No. 2 to his last report, Mr. MACKWORTH has also submitted to the Government and to the public very elaborate and well-considered rules for the general regulation of collieries, which has been previously under the consideration of the deputies from the coal mining interests of England when they assembled in London in May, 1854. The suggestions of Mr. MACKWORTH will, of course, receive, as they deserve, every attention in the formation of special rules to govern

particular coal mines; and the reports which we have thus briefly introduced to public notice, with the varied and valuable recommendations which they contain, have appeared at a very opportune period, when the colliery proprietors of Great Britain have an imperative duty imposed upon them by the recent Act now coming into operation, of providing by proper rules for the due regulation and management of their coal mines, and of the persons whom they severally employ in connection with them.

The report of Mr. H. SEYMOUR TREMERE, the Commissioner appointed under the 5th and 6th VICT., c. 99, to enquire into the state of the population of the mining districts, 1855, has appeared simultaneously with the reports of the Inspectors of Coal Mines. It has also been presented to both Houses of Parliament, by command of Her MAJESTY; and although, as compared with the other public document which we have fully noticed, it is but a brief publication, it is still replete with interesting matter. It commences with an announcement that, under the sanction of the present Premier, Viscount PALMERSTON, when Secretary of State for the Home Department, Mr. TREMERE had occasion to engage the usual professional assistance, in order, if possible, to check the employment of females in the collieries of certain parts of South Wales, the recurrence of which practice, in portions of those districts, we regret to learn, had been frequent and obstinate. Statements to that effect had been received from magistrates, and from other unexceptionable sources, amply sufficient to justify the adoption of legal means to suppress so unmanly and disgraceful a practice; but, although evidence sufficient to justify prosecutions had not been obtained, the enquiries, by awakening the fears of those who had violated the law, have had for the time the desired effect. We lament, however, to learn that females have become so degraded as to work in men's clothes, for the purpose of avoiding detection; but the proprietors and their agents must be conscious that they are the only persons who can interfere with permanent effect, and that not only the law, but the sensibilities of human nature are violated by the permission of this practice in the collieries over which they have control.

The violation of the law, in the employment of boys under 10 years of age underground, is, we lament to observe, according to the report, becoming much more general, the localities in which they are so engaged to the greatest extent being South Wales, Staffordshire, and Yorkshire. It would appear that neither the exposure nor the payment of fines had any but a temporary effect on the persons who fell under the sentence of the law for its unfeeling infringements in this respect, nor on those around them who were equally engaged in violating it, whenever they thought they could do so with impunity. The frequent and generally unreasonable strikes among the colliers; the habit, almost universal among them, of working less the higher the wages are; the common sacrifice of their children's best interests, to procure themselves more means of self-indulgence; and the difficulty, according to Mr. TREMERE, of finding in the mining districts educated individuals to fill appointments of trust, are, in his opinion, patent facts, equally productive of a large annual amount of national loss, as they are a standing discredit on our civilisation. Mr. TREMERE sustains his assertions by the experience of 15 years in investigating the condition of those districts, and also by much personal communication with nearly all the principal persons engaged in them in the employment of mining labour. We only give expression to the opinions of an official functionary, while we freely admit—and, indeed, have never failed to impress upon those invested with authority—that there is much room for educational improvement in our mining population.

Mr. TREMERE refers to the continued success of the prize schemes for the encouragement of education, which, by the exertions of the Rev. J. P. NORRIS, Her MAJESTY'S Inspector of Schools for Staffordshire, &c., have sprung from the one originated, in 1851, by the iron and coalmasters of the southern division of that county; and there are now five in operation, supported by all the persons of leading influence in each district. In Staffordshire alone, the candidates examined for the prizes of the year 1854-5 amounted to 619, of whom 365 were boys, and 214 girls; and it will be conceded that many beneficial results must follow from the extension of the system, as well to the children themselves as to their parents and their employers.

With regard to the condition of the colliery population on the surface, and the ways and means of improving it, Mr. TREMERE is enabled officially to state, from the communications frequently addressed to him, soliciting information and advice, founded on various statements in his former reports relative to that branch of the subject, that every year adds to the number of instances in which serious efforts are made in that direction. An extract is introduced, and referred to with approval, from a paper read by Mr. HERBERT MACKWORTH, before the Society of Arts, in April last, and which we noticed at the time, describing the mining villages of Belgium. Mr. TREMERE observes that, although no mining village which he has yet seen in this country equals, in attention to an external effect of comfort and elegance, one or two of those adverted to by Mr. MACKWORTH, one in Scotland has this year been nearly completed by the Dowager Lady RUTHERFORD, for the colliers on her estate, which will, when finished, nearly approach them. The schools will be on a handsome and liberal scale; the houses, we are assured, are well arranged for comfort and decency; the gardens will be ample, and the space in front of the houses will be laid out so as to contribute to recreation, as well as to be agreeable to the eye.

The statement is also here confirmed that a difficulty is felt in many districts in keeping up a supply of colliers and miners adequate to the increasing demand, and the expediency is suggested to the employers of doing all that may be in their power to increase the supply, by measures calculated to make those around them satisfied with their lot; while a warning is afforded against any needless amount of legislative pressure in regard to the labour of their children, which might tend to divert them to other occupations.

It has long been a subject of complaint with those who have invested their capital in mining stock, that when required it is so difficult to realise it; and even then when it can be sold it becomes a matter of negotiation, and the prices which are quoted cannot be relied upon. The dealers in mining shares, it seems, have each their favourite mines; in these they trade, but if asked to do transactions in any other stock than their own they generally profess to know nothing about it—in fact, if a person wishes to dispose of any shares he may hold, in many cases, instead of a price being offered, the enquiry is what is the amount required for the shares. The consequence of this system is, that many who would embark in mining enterprise are deterred, from the knowledge that the shares they purchase, in case of necessity, they are not able to realise unless at a great sacrifice, and in many cases not at all.

At the period when the Mining Exchange was formed, a correspondent, Mr. THOMAS HARVEY, forwarded a communication to us, which was published in the MINING JOURNAL of June 9: in this he stated as his opinion that the two essential elements wanting were a consolidated stock, and the class which is known on the Stock Exchange as jobbers. His proposal was to consolidate the entire capital of 20 or 30 of the best dividend-paying mines, and his plan carried out, "mining property would become as valuable as Consols, and subject to no greater fluctuations or changes." There is no doubt but that the question is beset with great difficulties, good mines are often neglected, while those of a dubious character, and still more doubtful management, often find individuals who are eager to purchase their worthless scrip. A reform is much needed, and although the Mining Exchange, probably, may not have effected so much good as was anticipated from it, yet, nevertheless, all must agree that it was a step in the right direction. On reference to our advertising columns, it will be seen that a company is in course of formation for Mining Investment: the basis on which they propose to act is to purchase shares in dividend-paying mines, or those approaching that position; to avoid all young and speculative mines; to lend cash for short periods at 10 per cent. on good shares and safe terms; to employ trustworthy agents in the mining districts, to keep them informed of the state and prospects of certain mines by telegraph; to purchase valuable shares at a lower rate than the current market price, to sell when they are high, and buy when they are low. The association is to be formed under the Limited Liability Act; the shares to be 1000, of 1000 each, one-half to be paid by October 20, the other moiety by January 1; the executive to consist of a manager, secretary, four directors, and country agents; meetings to be held half-yearly, and no mining broker or shareholder to be eligible to be on the staff of the company. From the statement of the promoter, it appears that he and his friends have been enabled, on a small scale, to realise a profit of 40 per cent., and he, therefore, confidently anticipates that the company can make a profit of 20 per cent., besides leaving a large sum of money available as a reserve fund. Although we cannot agree with the whole of the propositions

set forth in the advertisement referred to, yet there are many of them which are worthy of notice. The undertaking is of a novel character, and there is no doubt that, if the company be placed on a working footing, several modifications will be found necessary. However, time and experience will show when and how they are to be applied.

Great discredit has been thrown on mining by many parties who have been connected with it; and we must say that there is not one class who have been alone to blame: agents, brokers, and promoters have all subscribed their quota to the general stigma which has impeded the successful development of mineral enterprise, and thrown on one of the greatest industries of the country undeserved and unmerited reproach. Although, possibly, not perfect in their workings, there can be no opinion but that companies of this nature will do a great deal of good; they will keep all on the alert, and render no small benefit, if they only infuse a little more correct information, and honesty of purpose, than is now generally practised.

Our last Journal contained a brief but highly interesting review of some of the leading papers read before the practical sections of the British Association, at Glasgow, on subjects immediately connected with metallurgy, arts, and manufactures. In proceeding to resume the same line of instructive enquiry, we must, in the first instance, notice an important essay, by Dr. STRANG, "On the Progress, Extent, and Value of the Coal and Iron Trade of the West of Scotland," the details of which illustrate the rapid and progressive advance of that branch of our national industries. Coal had been from a comparatively remote period wrought around Glasgow, chiefly for domestic uses; but it has only been since the introduction and extensive use of the steam-engine, and more particularly since the discovery of the easy and economical mode of smelting iron by the hot-blast, that the vast and closely packed mineral wealth of its neighbouring districts has been fairly developed, or rendered highly remunerative. Even so recently as the year 1831 the quantity of coals brought to Glasgow only amounted to 500,000 tons, forming even within that period a strong contrast with the present vast consumption. It appeared by the returns supplied by Mr. WILLIAMS, the Government Inspector of Mines for Scotland, that in the year 1854 there were 367 collieries at work in Scotland, of which 237 belonged to the west country, 171 being in Lanarkshire, 78 in Ayrshire, 11 in Dumfriesshire, and 7 in Renfrew.

The same returns show that during that year there were 7,448,000 tons of coal raised in Scotland, of which quantity 6,448,000 tons were raised from pits situated in the above-named four western counties. When we take into our calculations all the different varieties of coals raised, including splint, soft, and gas, the average price of which may be fairly estimated at 7s. 6d. per ton, the produce derived from the coal mines of the west of Scotland in the year 1854 may be safely valued at 2,418,000. Of the quantity of coal thus produced, it appears that 2,152,800 tons were consumed in the manufacture of pig-iron, 367,200 tons in the conversion of pig into malleable iron, making altogether 2,520,000 tons employed in connection with the manufacture of iron. It further appeared that 926,221 tons had been shipped, and that 148,312 tons had been sent beyond the boundaries northward and southward by railways, leaving for general manufacturing consumption, for steam-vessels, and for the domestic uses of the Glasgow district, 2,853,427 tons. The number of persons employed during the same period producing this quantity of coal was 22,980. While we thus find that this great development of the coal trade in Scotland is of comparatively recent origin, the manufacture of iron in the same division of Great Britain is still more modern, having obtained its present almost marvellous position during the last few years. So late as the year 1830 there were only 16 blast furnaces in the west of Scotland, and the whole produce of iron scarcely reached 40,000 tons; while, in the year 1854, there were 118 blast furnaces in full blast in Scotland for the smelting of iron ore, and the quantity produced amounted to 796,640 tons. Of the above 118 blast furnaces, 102 were situated in Lanarkshire and Ayrshire, 72 being in the former and 30 in the latter, and the produce of these amounted to 717,600 tons. Taking the average price during the twelve months of that year at 79s. 8d. per ton, the gross value of this rapidly progressing branch of industry is shown to have been 2,858,440. Of this vast quantity of pig-iron produced in the west of Scotland, 122,684 tons were shipped direct to foreign countries, and 294,194 tons were sent coastwise from the Clyde, Port Dundas, and the western ports of the Clyde Estuary, while 22,865 tons were sent away by railways, and 171,360 tons were converted into malleable iron, leaving the remaining 106,497 tons for foundry and other purposes of the district.

The number of men employed in iron mining in this district during the year 1854, was 3645 in Lanarkshire, and 1943 in Ayrshire, making in all 5588; and taking the average wages at 22s. per week, we have an annual expenditure in the wages of an operative population alone of 319,633. 12s. The number of men employed during the same period in managing and working the smelting furnaces amounted to 1344, who received on an average 4s. 6d. each per day, making an additional annual aggregate sum of 110,396. If, however, the manufacture of pig-iron be a modern industry in the west of Scotland, that of malleable iron is still more recent, for, with the exception of an attempt at a remote period to establish a small manufactory of that description at Wilson's Town, which was unsuccessful, scarcely anything had been effected in this important branch until the year 1839; and even so recently as the year 1842 the annual production did not exceed 35,000 tons. The manufacture of malleable iron, however, in the year 1854 reached 122,400 tons; and taking the average price of all descriptions to have been 10s. per ton, the gross amount of this industry would thus have been 1,224,000. The number of men employed in this branch was about 4000, and the average rate of wages paid 28s., exhibiting an annual aggregate amount paid in wages of 291,200. Assuming these several statements and calculations to be as correct as, perhaps, they could possibly be made, the real value to the west of Scotland of the entire of the iron industries would not amount to less than 4,872,866; while the number of persons employed was 33,908, and the amount paid alone in wages 1,973,937. It was thus conclusively shown by tables, the results of these returns, that the coal and iron works of the west of Scotland, of which Glasgow was the great central mart, produced to those employed in connection with the manufacture no less a sum than 4,872,866, gave employment to 33,908 persons, who received wages in return for their labour to the amount of 1,973,937. Statistics thus carefully arranged and condensed, cannot fail to prove of great value in ascertaining our national capabilities, and enabling us to contrast them with the present development of our resources. When the magnitude of the above figures, and the value which they bear on the social and economical condition of this great mining and manufacturing district, are calmly considered, it will not be difficult to arrive at one of the main sources of the recently increased wealth of Glasgow and its vicinity, now the great commercial emporium of Northern Britain.

An highly interesting paper, "On the Quarrying and Blasting of Rocks," was read by Mr. WILLIAM SIM, of the Granite Quarries, near Inverary, who observed that the quarrying and blasting of rocks may be considered as one of the rudimentary arts, connected equally with the profession of the engineer, the architect, and the practical builder. Up to a very recent period, the mechanical modes of displacing large masses of rock had remained nearly the same as when the practice of applying gunpowder for the purpose had been first introduced. The ordinary method adopted of blasting rocks involved three separate and distinct operations—namely, the boring of the holes, charging them with gunpowder, and firing them, processes all of which were in general tedious, uncertain, and unsafe. It was, therefore, natural to expect that, in an age of progressive science, some efforts would be made at improvement, and the first attempt was some years ago, at the Chalk Cliffs, near Dover, on the line of the South-Eastern Railway Company. A blasting operation was there effected on a scale of surpassing magnitude, by an explosion of 18,500 lbs. nearly 8½ tons, of gunpowder, fired simultaneously in three mines by electrical communication, and with complete success. It did not appear that any further effort was made in this direction until the contractors for the Government breakwater at Holyhead commenced their extensive works in that harbour. It being then found that the ordinary mode of blasting could do little towards supplying the enormous quantity of stone, 4000 or 5000 tons per day, required for the breakwater, they had recourse to blasting on the Dover cliff principle, and with the most successful results. The contractors for those great works are now expending not less than 300 tons of gunpowder annually in blasting on an enlarged system.

The first introduction of the improved plan into Scotland occurred in Mr. SIM's own practice, at the granite quarries on the estates of his Grace the Duke of ARGYLL, at a small village called Furnace, situated on the banks of Loch Fyne, about eight miles south-west of Inverary. These quarries were being extensively worked, chiefly to supply the City of Glasgow with causeway paving stones, the material being of a hard description, as could be seen by the specimens exhibited to the meeting. In

proof of its hardness, it was remarked that a tool which will bore from 12 to 15 in. in ordinary granite without requiring to be sharpened, will in this rock only bore 2½ inches.

The great expense incurred in boring, blasting, and quarrying a hard rock of this description, where the blocks were required in large quantities, the tediousness of the process, and the shattered state and angular form in which the rock was displaced by the ordinary method of blasting, induced Mr. SIM to adopt the Dover cliff system, and accordingly a blast, on a large scale, was prepared and fired in the month of September, 1852, with such results as to lead him to continue that plan ever since. He had up to the present period fired ten blasts on that principle, varying in position, and with charges of gunpowder of from 1500 to 6000 lbs. His experience had enabled him to direct the process of much of the intricacy which had been attendant upon the blast at Dover cliffs, and considerably to simplify the operation; he, therefore, presented a brief outline of the results, in the hope that it might tend to the general progress and improvement of this department of mechanical science. The details of his calculation for blast No. 8, being one with zig-zag mines, of which he submitted the plan, were as follows:—The mass of rock to be displaced was 33 feet in length to the square of the mines by 60 feet in thickness from the face, and 70 feet in height, and it was supposed that the gunpowder would force its way lengthways another 17 feet. The mass was, therefore, computed at 50×50×70=6500 cubic yards, equal to 12,000 tons in weight. To displace this with the ordinary proportion of 1 lb. of gunpowder to every 3 tons of rock it would have required 40 barrels, or 4000 lbs. of gunpowder; but on account of the regular form or lie of the rock, it was resolved to reduce the ordinary proportion of gunpowder to half the usual quantity: only 20 barrels, or 2000 lbs., were accordingly used, and with this reduced charge the blast was perfectly successful. The quantity of gunpowder was thus about 5 ozs. per cubic yard, or 2½ ozs. per ton of rock displaced, and this may be considered a minimum charge. Every blast is, of course, attended with its own peculiar circumstances, favourable or unfavourable, scarcely any two being alike; but, as a general rule, the maximum and minimum charges above mentioned may be safely adopted.

In the discussion which followed, Mr. SIM was highly complimented on his excellent paper, by Mr. FAIRBAIRN, Dr. ROBINSON, and other distinguished members of the Association. The subject is of peculiar interest at the present moment, for, if the anticipations of the public are destined to be realised, the efficiency of the new system of blasting may be speedily tested, in razing and levelling with the ground the large masses of stone, bound with iron, which compose the docks and fortification of Sebastopol.

All who are concerned in mining adventure in California must remember that, last year, there was a great drought in that country. It not only affected mining interests, but agriculture and commerce were likewise materially injured: trade was so much shaken, that several eminent banking houses of San Francisco were forced to suspend their payments; and from that collapse the mercantile community received a blow from which they have even now scarcely recovered; and this was attributed by all parties to what, according to the local journals, was technically termed a "water famine." It is not to be anticipated that this want of the necessary element will be continuous: the climate is now known to be so variable, that in some seasons the inundations, from a too plentiful supply, have been equally as injurious as the drought of last year.

In about six weeks from this time the rains will begin to fall, and the gold mining companies will then have, for some considerable period, a continuous supply of water. Our American cousins will, no doubt, at the first opportunity avail themselves of this; and by Christmas we shall hear that the placer diggings are in full operation, and giving good results. The old-established American Californian mining companies will, likewise, resume their activity; and the returns of gold will increase with the means of obtaining it.

The great error committed by the English gold mining companies was, that they went hap-hazard to work, without any knowledge of the enterprise in which they were about to embark. Inexperienced superintendents were dispatched to the mines; the directors at home had no knowledge of mining; in many instances they were led away by the representations of American adventurers, and lent their names to that which, in too many cases, has proved a delusion; the public, with that gullibility and cupidity which generally guides their conduct, eagerly subscribed for the scrip; the speculative outsiders had an interest in puffing it, this being a standing rule of theirs—never to enquire what is the real value of the property, but how a penny, from day to day, can be turned in the market. The stock was subsequently foisted upon the common herd, confidence was engendered, and this remained until the successive bubbles burst; a reaction then took place, several of the associations disappeared; while the shares of all those that remained were considerably depreciated; and in this state they remain at present.

We will not pursue these companies through all their various phases; we do not wish to go into a recital of the losses and the miseries they have caused, not only here, but in the provinces. The destruction they have spread has been far and wide, and it will be some considerable period before public confidence will be again restored in these enterprises. We have heard of shares on which the full amount has been paid by small holders—by those who have invested their savings in them, who have been sacrificed, owing to a combination of knavery, ignorance, mismanagement, and incompetency. At a ruinous loss, in some cases a little has been obtained; but in the majority of instances nothing has been saved from the wreck.

Fortunately, there are exceptions to the rule; and it is to these companies we would particularly address ourselves. They have always borne a fair credit with the public; a power of crushing has been shown, but this has not been constant, owing to the deficiency of the supply of water. In the mean time, the expenses of the staff have been the same, whether at work or play. All practical men must know this to be ruinous. What we would impress upon them is that, while they are in funds, instead of declaring dividends, if such be in their power, they should endeavour, either by artificial means or by arrangements with the several water companies, to obtain such a quantity of that necessary element that, for the future, they would not be dependent on the seasons. The necessity of obtaining a water supply, as well as the character of the mines, was pointed out some years since to one of our most eminent engineers, who had the control of one of the supposed accredited mining adventures in California. The advice then tendered was totally disregarded, although the party offering it was possessed of considerable local knowledge and mining experience in the country. To this peculiar case we will not further allude, but merely state that a large amount of British capital, under what was then thought to be the best auspices, was totally lost; and it is difficult at present to say whether the blame rests with the directors or with the superintendents.

Prospectuses have been issued, in London, of two water companies—the Sierra Nevada, and the Nevada County. In America, the name of the water companies is "legion." But little is known of those projected in London: we shall further enquire into their merits. In the mean while, we must reiterate that, if our English gold mining companies are to be successful, they must always have the command of water power.

APPLICATION OF THE "HIRUDINE" TO FURNACE BLAST.—In last week's JOURNAL, we noticed this new power, and as our observations were confined principally to its utility for steam-vessels, we will now endeavour to show the importance of the invention to ironmasters, founders, glass manufacturers, and all parties making use of the blast-furnace. The Hirudine is an appliance that affords a happy solution of the long-felt difficulty of economically securing a blasting power to fulfil all the various requirements of furnace operations. While on the one hand it is as inexpensive for working as the fan, and even more commodious in arrangement, it possesses, on the other, an action as potent and complete as that of the far more costly cylinder. The construction of the Hirudine is essentially simple and durable, a full description of which will be found in the MINING JOURNAL of last week. For the furnace blast, it may be fixed beneath the ground, or under the floor line of the works, so that the apparatus will occupy the least possible space. A tolerably rapid movement of the undulating band will convey a strong and unintermitting draught of air to the furnace, and with far fewer revolutions, and consequent wear of machinery than with either the fan or cylinder. For mining drainage, mill, and other purposes demanding great pumping power, the Hirudine is stated to afford considerable facilities, the mechanism of the pump being precisely similar to that of the furnace blast or the ship propeller. At each revolution of the shaft the whole column of water in the tube, whatever its length, is twice forcibly discharged, and thus with some 12 or 15 revolutions per minute a continuous body of water is engaged, and ejected at

a rate of from 50 to 60 miles per hour, though the machinery only moves at from 100 to 200 feet in the minute; and thus the inventor alleges that the largest amount of work is accomplished with the least possible amount of strain, friction, or vibration.

IRON AND COAL TRADES OF YORKSHIRE AND DERBYSHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

SEPT. 27.—Whatever may be decided upon at the preliminary meeting of ironmasters, held this week, there is little doubt about the reasonableness of an advance of 40s. per ton, which appears to be warranted by the demand, as well as by the high price of pig-iron and coal, and the high rate of wages in every branch of the manufacture. Rails, bars, hoops, and plates are in very extensive demand, and, in consequence, additional furnaces are being put into operation. The only branch of the trade that does not exhibit so prosperous a condition is that of sheets, which description of iron is somewhat dull of sale. The works in Yorkshire and Derbyshire are fully employed, and although they will not derive the benefit of any advance for several weeks, in consequence of having considerable orders on their books at old prices, they will, eventually, be benefited by the recent advances. There is less demand for rolling stock on railways than was experienced last year, but this is more than compensated by the demand which has set in from America, and the northern European states. The fluctuations in Scotch pig-iron have been considerable since the advance of the rate of discount by the Bank of England, and nothing but a steady legitimate demand has prevented a rapid decline in the value of this article, which quickly rallied from its temporary depression. The Sheffield trades evince but a slight appearance of amendment; there is, however, every prospect of a speedy termination of the long depression, as America must become a purchaser of Sheffield wares to a considerable extent. The prohibition of export to the north of Europe has been removed from all descriptions of iron, excepting plates, and iron suitable for rivets. The policy of this measure appears very questionable, as Belgium will, no doubt, supply Russia with all she may require. The papers are now filled with crude notions about wrought-iron guns; and Mr. Nasmyth has shown his ignorance of the structure of large masses of forged iron, in a remarkable manner. There is no doubt the employment of rolled plates would obviate the difficulty in which Mr. Nasmyth has become involved, and that guns of any calibre might thus be made. What is to prevent plates being rolled to a semi-circular form, then placed on the edges, and the edges united and kept in their places by strong wrought-iron hoops, and then bored to the required size?

Lead mining in the Peak of Derbyshire appears to be going on successfully. The *modus operandi* of the Eyan Company consists of a great effort to drive a water level from Stony Middleton, through Eyan, to the mines on Eyan Edge, of ancient and great repute; but at present, and until reached by the level, not to be worked on account of an accumulation of water. The level is completed to a distance exceeding two-thirds of the whole length; and within the last few days, as has frequently been the case in the driving of the level, a great deposit of ore has been discovered, and in this instance, bears indications of continuance. The other feature in the operations of this company is to be seen at their mine, called the Dusty Pit, a little out of the village, by the wayside, leading to Castleton, Bradwell, and Tidswell, where a small steam-engine, of some 8 or 10-horse power, has enabled them to get enormous quantities of ore at a depth of 62 fms., and from which principally their great dividends hitherto have been paid. Although the attempt of the company to smelt their own ores will retard their dividend, this being an operation requiring considerable expense and time, we have no doubt, from the present state of the workings, that the mines will be fully maintained in a dividend state.

The Midland Mining Company, at Ashover, have put down an engine, in order more fully to develop the resources of their property.

THE IRON AND METAL TRADES OF SOUTH STAFFORDSHIRE.

[FROM OUR CORRESPONDENT IN BIRMINGHAM.]

SEPT. 27.—The preliminary meeting of the ironmasters was held to-day, at Mr. Bolton's, Hansworth, and was very numerously attended, Philip Williams, Esq., in the chair. The question of price being the only one for consideration, it was introduced by the Chairman, and discussed. By some it was held that the state of the order-books, the daily increasing demand for France, and the favourable turn of the war in the East, fully justified an advance of 40s. per ton upon bars, and a corresponding advance upon all other descriptions of iron. On the other hand, the uncertainty of the French market, arising from the defective harvest in that country, the recent advances of discount by the Bank of England, the pressure in the money market generally, and the impropriety of pressing heavily upon that numerous class of persons called small manufacturers, were all urged as motives for moderation; and it was eventually resolved, after a sharp struggle, that the advance should not exceed 20s. per ton. Quotations for the ensuing quarter may, therefore, stand thus:—Bar iron, 10l. per ton; hoops, 11l.; and sheets 12l. Pig-iron is selling at from 4l. 10s. to 5l. per ton; and if it can be taken as an indication of the state of the trade, I may state that 4l. 12s. has been paid in advance for best hot-blast. There is a considerable scarcity of ironstone in the district, and the difficulty of obtaining it from a distance is, of course, so materially enhanced by the cost of carriage as to render it almost impossible for our makers to avail themselves of foreign mine, and they are obliged to use a considerable quantity of rather inferior quality from Northampton. The yield of the new mines in the north side of Staffordshire is, however, fast increasing, and the quality is reported sound and profitable. On the whole, the trade may be reported in a healthy state. The undersellers have found their level; and in nothing, perhaps, has this been more manifest than in their failure to induce the trade to advance the price 40s. per ton, which they knew could not be maintained, and which they desired from no other motive than to afford them an opportunity of carrying out their usual system of underselling. Nor have we reason to apprehend any more commercial embarrassments. We have, it is hoped, seen the worst in that direction, and unless the Bank screw is put on beyond endurance, we may look forward to a sound winter's trade. If, however, discounts are pushed much further, a reaction will become inevitable.

The directors of the Dudley and West Bromwich Bank, and the creditors of Messrs. Davis, and the other masters who failed during the past quarter, are endeavouring to adjust matters, so as to render the property as productive as possible for the general creditors. At a recent meeting of the creditors of Messrs. Davis, Mr. S. H. Blackwell in the chair, it was reported that the committee had recommended that the bank should take the Crookhay Iron-Works, furnaces, &c., at the sum of 35,000l., Messrs. Davis to be allowed to occupy the furnaces as tenants, the iron-works to be discontinued, and given up to the bank as mortgages. At the time of the failure, the bank held a large quantity of pig-iron, as a guarantee, for which they are to account, and give up the leases they hold of the Nethells Collieries, and come in as ordinary creditors for whatever balance may be due. The report sets forth an accurate statement of the affairs of the estate, which certainly exhibits it as having been a formidable commercial embarrassment, and one well calculated to shake the credit of the district. The amount of unsecured debts is 187,341l. 16s. 3d. The proposed dividend upon unsecured debts is as follows:—10s. in the pound, payable at 2s. 6d. at the end of 6 months, 1s. 6d. at 18 months, the same sum at 30 and 42 months, and 3s. at the end of 54 months. The whole of the works to be carried on under inspection, pending the payment of this dividend.

The affairs of Mr. Joseph Spencer, of Bilston, have passed through another phase this week in the Bankruptcy Court, when the following returns were presented in his balance-sheet:—Sundry creditors unsecured, 14,672l. 3s. 7d.; creditors holding securities, 88,617l. 10s. 7d.; liabilities, 24,749l. 3s.—Assets: good debts, 32,507l. 5s.; doubtful, 10,897l. 0s. 4d.; properties available for the assignees, 40,197l. 13s. 1d.; properties in the hands of the creditors holding securities, 13,100l.; deduct securities, 88,617l. 10s. 7d.—balance in favour of assignees, 42,387l. 9s. 5d., leaving to be carried forward as a deficiency, 20,747l. 15s. 9d., irrespective of the above liabilities of 24,749l. 3s.

Turning to a more agreeable subject, in connection with the district, I may not inappropriately notice the recent report of the School Inspector, relative to the progress now being made in the education of the children of the miners. In years gone by there was not in England, with the exception of the unfortunate factory children, a more neglected race of human beings than the children of the poor colliers in this and the other mining localities. A great change, however, has taken place, and owing to the humane exertions of Messrs. Ragnalls, Williams, and the late Mr.

Thornycroft, and others, very valuable schools have been established, and the numbers now receiving education in them, and the progress they are making, reflects the highest credit on all concerned in the laudable undertaking. It appears that, in 1851, the iron and coal masters established a prize scheme in their schools, which has been productive of the best results. Not less than 619, of whom 365 were boys and 214 girls, were examined in the Staffordshire schools alone. It is, however, deeply to be regretted that the necessities of the parents should often compel them to remove the children from school before they acquire sufficient education; and it may also be added with regret, that much more is often spent on gross irregularities by the parents than they can hope to receive from the earnings of their children at the ages of from eight to ten years. The schoolmaster, however, is abroad, and a new race will shortly appear on the stage.

In connection with the General Metal Trade there is little to report. Copper remains firm, but not likely to advance in price, notwithstanding all the predictions to the contrary. The Tin market is also quiet, and if the currency men here are to be credited, the Bank of England will soon beat down all prices. One thing, however, is quite certain, the manufacturers in many branches, which it would be imprudent to mention, certainly complain bitterly of reduced profits.

Mr. John Morrison, of Birmingham, has during the past week specified (through Mr. George Shaw) his patent for improvements in the manufacture of metallic pens:—

This invention relates to that stage of the manufacture of metallic pens at which the grindings near the point and on the back of a metallic pen, called the "straight and cross grindings," are effected. The grindings are usually effected upon the pen when it is in a nearly finished state—that is, after the sheet metal of which the pen is made has been cut and bent. This invention consists in effecting the "straight and cross grindings" in the sheet of metal from which the pens are made, or in grinding the blanks after they are cut from the sheet, and before they are bent into pens. To effect these grindings, the strip of metal from which pens are to be cut is passed through a machine consisting essentially of the following parts:—The strip of metal to be ground is fed to the machine under rollers, and between guides; the strip of metal is carried forward until it is brought under the operation of a grinder. The motion of this grinder is in a plane perpendicular to that of the sheet of metal; by the rotation of this grinder the cross grindings on one side of the strip of metal is effected. On the further motion of the strip of metal through the machine it is brought under the operation of another grinder, working in the same plane as the before-mentioned grinder; this second grinder effects the cross grindings on the other side of the strip of metal. The strip of metal, lastly, is brought under the operation of a third grinder, working in a plane at right-angles to the former grinders, by which the straight grinding in the centre of the cross grindings is effected. The strip of metal in passing through the machine is pressed to the rotating grinders by rollers. The motion of the grinders is effected by bands passing over pulleys on their axes. In order to prevent the strip of metal from "buckling" during its passage through the machine, it is supported above and below by endless guide cords. The adjustment of the several grinders is effected by means of screws. Instead of grinding a continuous strip of metal, the inventor sometimes passes blanks cut from sheet metal, and held in a suitable holder through the machine to receive the requisite grindings.

STOCK, MINING, AND RAILWAY SHARES IN IRELAND.

[FROM OUR CORRESPONDENT IN DUBLIN.]

SEPT. 27.—We have had another dull week in the Stock and Share Market. Consols and New Three per Cents. have both receded about 30s. National Bank shares are to-day quoted 1l. less than last week's prices. Mining Company of Ireland shares, after rising 15s., fell about 7s. 6d. Wicklow Copper shares were done at a fall of 1l., and are to-day quoted at 28. Railway shares, with the exception of the Waterford and Limerick, did not exhibit the same downward tendency, but prices were hardly maintained. The following are last prices:—Consols, 88½; New Three per Cents., 89½; Hibernian Bank, 33½; National Bank, 30; City of Dublin Steam, 63½; Patriotic Insurance, 83; Consumers' Gas, 8½; Mining Company of Ireland, 13½; Wicklow Copper, 28; Dublin and Wicklow Railway, 5½; Great Southern and Western, 50½; Kilkenny Junction, 6; Midland Great Western, 49; Waterford and Limerick, 18½; Waterford and Tramore, 5½.

But few things would seem to indicate so much the growing prosperity of this country as the great demand which exists for increased communication throughout every part of it. Railways are springing up everywhere around us, but especially in the south and the west, where two or three are well nigh completion. One has been just commenced, and some others are projected. The first stone of the Kilkenny and Tramore Railway was laid by his Excellency the Lord Lieutenant last week; and every encouragement has been afforded by the lord of the soil, the Earl of Kenmare, who has generously given the company a grant of 260 acres of land, which will enable them to run the line 11 miles through his lordship's estate. This is worthy of imitation, and deserves to be recorded.

The Irish South-Eastern Railway Company held their half-yearly general meeting yesterday. The report and statement of accounts were deemed satisfactory, and passed. A motion was made to consider the services of the directors, but was opposed, as it appears that those gentlemen had, in a manner most creditable to themselves, agreed on a former occasion to forego any pecuniary consideration till a dividend of 3l. per cent., out of profits, could be declared. The balance on the half-year was 2352l., out of which a dividend of 2s. 6d. per share was declared. This line was partially opened in 1848, and entirely in 1850; its length is 25 miles. The following are the dividends declared, the first being on the half-year ending Dec. 1852, 1s. 6d. per share; June 1853, 1s. 6d.; Dec. 1853, 2s.; June 1854, 2s.; Dec. 1854, 2s.; June 1855, 2s. 6d. This last was, therefore, the highest declared, and there is every likelihood of its being further increased.

The meeting of the Waterford and Tramore Railway Company will take place to-morrow. It is thought the dividend will be 2s. per share, or a little over 1l. 10s. per cent. on the winter's working. The last dividend was 2l. 10s. per cent., making 4l. per cent. on the year. This line is only 7½ miles long, and has been open but two years: 16 properties will be set up for sale in the Incumbered Estates' Court next month. I will hereafter draw attention to some of them which I consider deserving the notice of your English capitalists.

THE METAL TRADES AND INDUSTRIAL PROGRESS ON THE CONTINENT.

[FROM OUR PARIS CORRESPONDENT.]

SEPT. 27.—Great inconvenience to all engaged in the iron trade has been for some time experienced, in consequence of the scarcity of all descriptions of iron, which inconvenience is daily more severely felt, and not only tends to drive prices upwards, but, in many instances, compels manufacturers to purchase second hand, to meet their immediate requirements. At St. Dizier, no change in the general appearance of the market has taken place, and prices continue very firm. Scotch pigs are plentiful, with an upward tendency. At Amsterdam, the transactions in Banca tin have been unimportant, at prices varying from 74½ fl. to 75 fl. Paschkoff copper is well held, at 75 fl., Couronne at 72 fl., and Drontheim at 75 fl. There is no lead offering. At Hamburg, the amount of business doing in zinc has been small, not exceeding 2500 quintals, which changed hands at 14 13-16ths m.b. Lead is more in demand, at former rates: English pig, 20½ m.b.; Spanish blocks, 19 m.b. Copper is firm, but little offering. At Liège, the general appearance of the market presents some improvement. Coals are in great request; and in pig-iron there is a considerable quantity of business doing, at the extreme rates of the day, and by many even a further advance is considered inevitable. From France, the orders have, during the past week, been plentiful. At Charleroi, the *Journal* states the demand for pigs and manufactured iron to be excellent. The ironmasters have not advanced their prices, and deal freely at former rates. There is a fair amount of business doing in merchant iron and sheets, for exportation to France and Holland. The price of ore is very firm. In the coal trade there is great activity in the principal establishments of the district—a fair amount of new orders coming in, and pressing requests to those which remain unexecuted. In the collieries, the underground operations are equally active; and the preparatory works for a good winter trade being now nearly completed, the banks begin to look quite animated, and ample employment is insured to the men. Wood, requisite for colliery purposes, is fetching almost fabulous prices, and even a still further rise is anticipated.

Amongst the numerous projects for making a communication between France and England, a viaduct has been proposed by M. Favre, such viaduct to be from 140 to 160 feet above the level of the sea, and to have arches 650 feet span and 60 feet rise. Before attempting to carry out such a project, three questions must be satisfactorily answered:—Can a bridge be constructed with arches of these dimensions? Could sufficient strength be given to the structure to insure against a violent tempest overturning the whole edifice? What would be the probable effect and uses of the undertaking? In the first place, a short description of the process

to be adopted in the construction will not be uninteresting. The abutments and piles are to be of solid masonry, joined with the best-known hydraulic cement, sunk so far into the soil as to prevent movement from the pressure of the water in either direction, and of such strength that, although 250 feet in length, they shall resist the motion of the sea without shaking. The arches are to be constructed in as simple manner as possible, and connected with a single horizontal way, about 40 feet wide, of oak, covered with galvanised iron; the whole of the material used in the making of the arch to be covered with an oleo-bituminous liquid, to render all its parts impervious to moisture. The second plan is to substitute iron for wood, and the third to construct the whole in masonry. Now, that a bridge can be constructed with arches of the proposed measurement there appears to be but little doubt, and the requisite strength could be given to it; but, on the third question, there appears some difficulty, for as "it is necessary that the piles should be not only of sufficient strength to resist the sea, but also to sustain the enormous weight of the arches," it becomes a matter for consideration whether the immense surface which must necessarily be covered by the bases of these piles will not, in the course of a comparatively short time, by acting as groins, be the means of forming an impassable bar, which would eventually become an isthmus, uniting England with the Continent. Had the projector, to whom, no doubt, this obstacle has presented itself, have given the exact dimensions which he considered necessary for the bases to secure stability, and offer the least possible resistance to the shingle, or other matter, which would come in contact with his piles, the scientific public would have been enabled, in a measure, to judge of the merits of his scheme; but, as his suggestion at present stands, I cannot think it would ever answer for practical purposes. I should be happy to learn the opinion of your English scientific men on the subject, as I consider fair discussion the best means of arriving at correct conclusions.

The Forges de la Basse Indre have given notice that the first half of the dividend declared to the end of June, of 40 fr. (17 12s.) per share, of 500 fr., will be payable after Monday next. Thirty shares in the colliery of Courcelles-Nord are advertised for sale, at Charleroi, on Oct. 25. A colliery, situate about 10 kilos. from Charleroi, is also advertised for sale, and stated to possess peculiar advantages for investment.

IRON CANNON—CAST OR WROUGHT.

In the manufacture of ordnance, the obtaining that certain degree of strength and durability, combined with lightness, and without the encumbrance of any excessive amount of untractable weight, is the all-important subject to which the attention of practical and scientific men has been directed. Combined with this desideratum is the object of obtaining the greatest effective power from the best form, united with, and executed in, the most appropriate and fitting substance or material. Guns hitherto have principally been manufactured in iron, bronze, brass, and that admixture of copper with zinc or tin ordinarily denominated "gun metal," although other materials have occasionally been substituted. Whatever body may be employed or used in the operation of the manufacture of guns or mortars, the question resolves itself into the following proposition—viz., What can now be done in order to make either cast or wrought metal guns of greater cohesive tenacity, through which they may continue uninjured by the force of that tremendous explosive power they are subject to from the discharge of a heavy loading of gunpowder and ball or shell, to the effect of which they are constantly liable? and further, Which process of manufacture is best adapted to the required purposes? However general this proposition may be, at the present time, investigators have tended, as they have been directed, to develop the intrinsic qualities of the iron required, whether in its cast or malleable state; whatever tenacity or toughness may result from the use of either original copper or its amalgams, under the denomination of brass, bronze, or "gun metal," the cost of guns so manufactured is so great as almost to preclude the possibility of those descriptions of compound metals being brought into general use, even without directly regarding the question of somewhat cumbersome weight which the metal presents, especially in the construction of cannon or mortars of the largest calibre; nor is it because these implements of warfare have been used by the Turks, under Mahmoud II., and in the Dardanelles, to an extent of 36-inch calibre, which required a charge even of 250 lbs. of powder, that this subject need be gone fully into. The material which, as an expedient, economy will suggest for present use is iron; and pursuing the subject, we should endeavour to ascertain whether for artillery or engineering purposes iron is preferable, when used in its wrought or malleable, or in its cast or moulded, state. The specific gravity of iron is certainly greater than that of copper, nor, perhaps (having regard to tenacity alone), is iron very far superior in this respect to the last-named metal. The most important subject for consideration which arises herefrom is, whether cast or wrought-iron is best adapted for the purpose specified.

In the formation of a cannon, a certain amount of gravity, or weight, is required to impart to the machine its projectile power, as well as to resist all strain, tension, and concussion consequent upon the explosion and combustion of the gunpowder and the discharge of the shot. Sufficient substance of metal for these purposes is all that is required; that amount which is beyond is useless encumbrance. In kind, all metals are malleable to the greater or the lesser extent; it is in the degree of extensibility as well as temperature wherein they differ. Cast-iron usually is considered to be brittle; although, under an alteration of temperature, it is capable of extension. The malleability of wrought-iron is developed by a dexterous manipulating process, from which the fibrous texture of the metal is obtained, and whereby it derives its tenacity. Cast-iron, on the contrary, existing in its natural form, presents itself in a crystallised state. The objection to the application of wrought-iron for the formation of pieces of ordnance arises from the difficulty of forging and welding in a sufficiently perfect manner so large a mass that it shall be perfectly uniform and homogeneous in its nature, combined with a proneness under certain circumstances progressively to re-assume its original crystalline form. The fibrous continuity is hereby interrupted, a degree of brittleness ensues in the place of tenacity, which under explosion, or the combustion of gunpowder, renders the material wherever this defect arises unable to resist the force of this concussion. A process by which wrought-iron, after having become crystallised, has been restored, and its fibrous character become reinstated, is, however, pursued in Birmingham, although it does not appear to have been adopted in respect of those wrought-iron cannons which recently have been submitted to the test of experiment.

The difference between the cohesive force and tenacity of wrought over cast-iron is sometimes stated to be about as three to one, although on account of the great difficulty which is always experienced in securing a thorough uniformity of substance under the operation of forging and welding iron in large masses, and from the molecular change which iron undergoes by frequent heatings during the process of manufacture, and through its remaining for a lengthened period in a softened state, the difference referred to generally may be stated as about two to one. In substance wrought-iron is essentially fibrous and laminated, cast-iron is necessarily crystalline. Whenever a discharge of shot is effected under the explosive influence of gunpowder, it is stated that a pressure of about 72 tons on the square inch arises, from which powerful concussion may be estimated the degree of cohesive tenacity, which is necessary to sustain so large an amount of explosive and expansive power, whether the material applied be either cast or malleable iron. The experiments which have been made in wrought-iron guns, and more especially that which resulted in the unfortunate failure of Nasmyth's guns, may still with advantage be persevered in. A different method of aggregating so large a mass as is required for a wrought-iron gun may yet be arrived at, or some improved method of annealing, or of reinstating the fibrous texture of wrought-iron may be acquired, so essential as these advantages would be to demonstrate the practicability of the adoption of wrought-iron in its adaptation to the manufacture of guns and mortars. Several further experiments have been, during the last week, proceeded with at Woolwich at the "butt" in the Royal Arsenal. Two guns were submitted on that occasion by Captain Blakeley, Royal Artillery, having wrought-iron rings combined with cast-iron; this gun, an 18-pounder, burst at the first discharge. The second gun, a 9-pounder, strengthened by rings from the trunnions and the breech, stood well, as also did a 12-pounder, by Messrs. Holroyd. A 6-pounder, made of cast-steel, burst on the first discharge.

At present repeated experiments have tended to prove that cast-iron is the most convenient, appropriate, and least costly material for the construction of guns and mortars of the largest calibre, subject as they are to such powerful concussions, from the fact that a sound and uniform gun can always be relied upon by the use of the best-selected material, and can always be exercised of only ordinary care in the moulding, heating, and casting process. The crystallisation of cast-iron is more uniform and perfect

than the fibrillation of wrought-iron; nor is cast-iron subject to the repeated heatings to which wrought-iron must be exposed. The amalgamation and agglomeration of the metal is very far more perfect, uniform, and homogeneous in cast-iron than when in a malleable state; nor is there that liability to accidental imperfections such as arise from flaw, cold joints, or imperfect welding. The forging of an enormous mass of iron of sufficient size to construct a cannon of ample substance to allow of 13-in. calibre, necessarily involves much risk and hazard, far more so than the casting of a similar body. The observation will certainly be made, that even this mass of cast-iron will be more porous in the centre than upon its external circumference; so necessarily it will be. But the same observation will be made in respect of malleable iron, the surface of which, as exposed to the hammer, will often acquire a far greater degree of density and hardness than the centre. Many of the long-continued experiments at Woolwich sufficiently demonstrated the fitness of the castings at the Low Moor Iron-Works for the purposes of cannons and mortars. The objection to cast-iron principally rests on the grounds of the excessive thickness which it is found necessary to adopt, and, consequently, its intractable weight, although where great projectile force is required to be obtained gravity must preponderate, which gravity supplies its own resisting power, and enables a greater range to be attained, and a more effective discharge to be accomplished; while the substance from which the actual weight arises provides a sufficient resistance in its own cohesive force, and this imparts that security so essential under the exercise of the combined and mighty powers of explosion and concussion. The foregoing statement comprises many of the advantages which are now possessed by the cast-iron gun. Nevertheless, by improvements in the manufacture of the wrought-iron gun which progressively will be realised, the latter material may yet be convertible into a formidable implement of warfare, although, perhaps, not on so extended a scale as that on which cast-iron will be used, that commodity possessing the lowest rate of cost, which always will vary.

The Americans first claimed the credit of having constructed the largest cast-iron gun ever made, which was alleged to weigh 25,000 lbs. The dimensions of this gun are as follows:—Length, 10 ft.; base ring, 39 in. diameter; length of chamber, 13 in.; diameter, 9 in.; length of bore, 9 ft. 1 in.; diameter of bore, 13 in.; weight of round shot, 230 lbs.; weight of shell, 180 lbs.; range, 3½ miles.

The gun which was manufactured some little time since by Messrs. Walker, Gospel Oak Works, Staffordshire, far exceeds the dimensions of the American gun. The gun in its rough state weighed 63,000 lbs., and when finished 41,000 lbs. This gun is 13 ft. long, 48 in. diameter at the base; calibre, 15 3-10ths. The shells weigh 320 lbs.; round shot, 456 lbs.

The usual monthly meeting of the committee of management of the Association for the Prevention of Steam-boiler Explosions was held at the Chambers of the Secretary, Mr. H. Whitworth, Corporation-street, Manchester, on Tuesday, when the chief inspector, Mr. R. B. Longridge, attended, and presented the monthly report of the proceedings of the sub-inspectors and himself. The following extracts from the report have been furnished to us:—"Since the last monthly meeting, the works of 135 members have been visited, and a total of 376 boiler inspected. With few exceptions, these boilers are in a good condition, and the mountings in good working order, but in four instances the safety-valves were found in such a state as to render the safety of the boilers very uncertain. There have been no cases of explosion during this period. Of the engines, 80 have been indicated, in some of which the diagrams show considerable waste of power, partly from errors in setting the valves, and the ordinary defects arising from wear and tear, but frequently, also, from the misapplication of high-pressure steam. It is not unusual to find the steam in the boiler two or three times the pressure at which it enters the cylinder, whereby the chief advantage of high-pressure steam is lost, and the boiler exposed to an unnecessary strain."

RAILWAYS IN AUSTRALIA.—By recent accounts from Melbourne, by the *Frances Henty*, intelligence has been received of a most encouraging nature respecting the progress of the Geelong and Melbourne Railway Company; 144 of the 207 shares had been called up; and the ready manner in which the shareholders met the last call, proves the confidence they entertain in the near prospect of a good working dividend. 200,000*l.* out of their gross capital of 350,000*l.* had been paid up, and expended on the works. It was expected that the cost of the line would even be below the estimate, and would be open for traffic in about the month of June of the ensuing year. It has been proposed to go into William's Town, and as a temporary measure, open the through traffic, by means of a steam ferry to the Hobson's Bay Pier, at Sandridge, and thence to Melbourne by the Hobson's Bay Line. This latter company was emerging from its difficulties, and notwithstanding the heavy outlay, incurred at a time when wages and materials were at the highest value, it is paying 15 per cent., and bids fair to become a remunerative investment. A progress report on the subject of trunk railways had been presented to the Legislative Council, by a select committee appointed to enquire into the best means of opening up the internal communication of the colony. The report was in favour of a system under the exclusive control and management of Government, the capital to be raised by colonial bonds, and contracts taken for the formation of the sectional portions, and for the supply of the necessary material and stock, in this country. The report recommended that the committee should extend its enquiries, with a view of arriving at a practical conclusion; and that a detailed report should be presented to the Legislature, on its re-assembling in October next. Considering the vast sums of money annually voted for roads, bridges, and works, in a roadless country, it is of the most vital importance to the colony to arrive at some decision on the subject of railways; and the Government are evidently desirous of giving their full support to the best plan, when the best plan is known and determined upon.

GOLD, AND THE GOLD FIELDS OF AUSTRALIA.—By the ships *Frances Henty* and *Northumberland* we have news from the 31st inclusive; and the last-named vessel has 270,000*l.* in gold on board. The Bank of Victoria had fixed the rate of exchange on London at 2½ per cent. premium. In the gold market, at Melbourne, there was no alteration, the demand being less active after the season when the roads were bad, must have stimulated the gold production, and among the proofs that the diggers have done well is their ability to wait for machinery, while others affirmed that the supply of water was deficient. The imports into Melbourne during the closing week in June were 121,459*l.*, and the exports 273,291*l.*, showing a balance in favour of the colony, but this includes the gold remittances; and there can be no question but that Australia is still heavily in debt to the mother country, and that some of the richest settlers at present residing there are drawing large incomes. The latest Government report had brought down 49,344*l.* There was a scarcity of copper ore at Melbourne. The Sydney advices are to June 23. The price of gold varied from 3*l.* 8*s.* to 3*l.* 13*s.* 6*d.* per oz. The last gold consignment received was 127 ozs. 13 dwts. It was said that the coinage of gold into sovereigns had commenced at the Mint, and that they would be shortly ready for issue. A great sensation had been caused in Sydney by the committee for trial of two wealthy bullion brokers, Messrs. Nash and Forbes, in partnership together, for having deficient weights. One parcel of gold offered to them by a seller was declared to weigh only 3 ozs., when, in reality, it was over 4 ozs.; and during the operation an inspector made his appearance, seized the whole of the weights, and found 20 of them deficient.

SPURIOUS GOLD DUST MANUFACTORY.—The last accounts from California state that a Frenchman, named William Duceau, and a Turk, Yousouff Bey, are in custody on the charge of manufacturing spurious gold dust. These worthies appear to have been engaged in this business on a large scale, and are said to have been connected with an express house in San Francisco. On their premises the police found "bogus dust," "bogus nuggets," and "bogus coin." On the eve of this discovery a prominent citizen, in the person of the active partner of the express house of Adams and Co., which succumbed to the pressure of the financial crisis some six months ago, left the country very quietly for Australia. His exit was performed in a manner which is classically described as "shooting the moon." Since he left, developments have been made as to the mode of conducting the business of his enterprising house, which will, no doubt, make a credulous public wary of trusting flashy business houses for some time.

SPIRITS OF WINE FOR MANUFACTURING PURPOSES.—The excise order which permits the use of methylated spirits of wine for manufacturing purposes, free of duty, comes into force on the first of next month. It would appear that this beneficial change in our commercial position owes its origin to the representations made by the Society of Arts to H.R.H. Prince Albert, who, impressed with the fact that the very high duty on spirits of wine placed an insuperable bar against all approach to fair competitive rivalry between this and other countries in many manufacturing processes, has successfully exerted himself to remove the impost. The regulation is observed by consumers are now being issued gratuitously by Messrs. Lightly and Son, the well-known wholesale wine and spirit merchants of Fenchurch-street. The regulation is, of course, of an especial and stringent character, and it would be well if all persons desirous of availing themselves of the advantages offered by the new law informed themselves of their nature.

Ahd-el-Kader visited the French Exhibition on Wednesday, accompanied by some of his distinguished friends. The party were greatly astonished at the natural and scientific productions collected, and the Emir, on taking leave of M. Le Play, beautifully remarked—"This place is the palace of Intelligence, animated by the breath of God."

ON THE MERIDIONAL AND SYMMETRICAL STRUCTURE OF THE GLOBE—ITS SUPERFICIAL CHANGES, AND THE POLARITY OF ALL TERRESTRIAL OPERATIONS.*

BY EVAN HOPKINS, C.E., F.G.S.

Mr. Hopkins commenced by stating that the object of the paper was to show how the organic remains belonging to the southern hemisphere had been brought to the north, and to bring forward demonstrative proofs that the whole surface of the globe is constantly moving at a very slow rate from south to north, by means of that power called terrestrial magnetism. It is the inexperienced, and those who have only studied books, who describe this globe of ours as an accidental and artificial product—hot or cold, hollow or solid—a wreck of worlds, or a chaos of melted matter, according to the immediate object of their thoughts and enquiries. Violent incandescent eruptions are often assumed to account for physical changes, which may be observed as daily taking place in different parts of the world, by means of the ordinary slow and imperceptible process of nature. Our globe, according to the notions of geologists in general, has been brought to its present state of mineral structure and configuration by repeated melting, roasting, boiling, freezing, and scratching, as fancy or fashion may lead the way.

These theories, however, do not, generally speaking, proceed from men who have been thoroughly trained in the laws of terrestrial physics and practical science, nor from persons who have travelled over the world, and who have examined and studied the phenomena of existing volcanoes, &c. On the contrary, they often proceed from geological professors and aspirants, who have never seen any other rocks than those in the immediate vicinity of their local habitations, which may not equal a spot that could be covered by the point of a finger on a globe of 3 ft. in diameter, nor yet a depth equal to the thickness of its varnish coating. Unfortunately, it frequently happens that the more limited the experience and scene of observation, the greater the presumption and consequent injury done to the progress of the true science of geology. We need not, therefore, be surprised at the extravagances and inconsistencies of many of the theories advanced by geologists to account for the observed superficial changes.

The want of knowing the state of the globe as it is in different zones, and the tendency of the human mind to draw conclusions from isolated and exceptional phenomena, confined to limited districts, and the desire to support the assumed fanciful hypotheses most in fashion, are the causes of the difficulties attending the progress of geological science, and of its being unavailable for useful purposes, and held in such low estimation by the public, and amongst practical men.

Let us turn over a new leaf, and read the book of Nature as we see it, neither adding to nor taking from the meaning of its true content; and let us endeavour to interpret each page as we progress; or, in other words, let us act as if we were strangers coming from the realms of space to examine this globe, to make a systematic survey of its contents, movements, and changes, and to give a faithful account of the whole, irrespective of the theories of its inhabitants.

This is the only way to act, if we intend to proceed in our labours in the true spirit of philosophy. It is not by supporting artificial systems, and magnifying one division at the expense of another, that we can progress in the true science of geology, or command respect for our labours. No; the temple of knowledge must be free from toadyism and sciolism, it must be peaceful and serene, and under the sole influence of a spirit in search of truth, irrespective of all human doctrines or individual interest. Mr. Hopkins then explained the general effects of polarity, which were illustrated with numerous highly-finished sections, made in different parts of the world.

WEEKLY LIST OF NEW PATENTS.

APPLICATIONS FOR PATENTS, AND PROTECTION ALLOWED.
A. Morton and E. Hunt: Motive-power engine.—C. Goodyear: Wheels for carriages, &c., where India-rubber is used.—T. Hewitt: Machinery for pulverising and levigating.—J. Gedge: Galvanising substances.—W. Cramer: Propelling vessels.—G. Peacock: Ship-building.—R. A. Brooman: Casting mortars, cannon, &c.—J. Stewart: Steam-boilers for the more efficient consumption of smoke.—L. Damrong: Construction of carriages.—J. Panet: Hydraulic system for propelling on railways, or obtaining motive-power and distributing water.—J. Rhodes and J. Johnson: Steam-engines.—J. Gimson: Feed apparatus for steam-boilers.—R. E. Cousins: Machinery for making cakes.

WEEKLY LIST OF PATENTS SEALED.
F. Ransome, Ipswich—Improvements in the manufacture of artificial stone.
R. J. Jesty, Great Northern Railway, King's-cross—Improvements in apparatus for indicating between parts of a train of carriages on a railway.
J. S. Perring, Radcliff—Improvements in the permanent way of railways.
W. Hutchison, Tonbridge Wells—Improvements in manufacturing artificial stone, and in giving colour to the same.
A. Gedge, Wellington-street South, Strand—Improvements in the means of stop.
J. McDougal, Manchester—Improved method of consuming smoke in steam-engine or other furnaces or fire-places.
T. R. Crampton, Adelphi—Improvements in locomotive and other steam-boiler.
L. Oudry and A. Oudry, Paris—Improvements in preserving wood, metal, and other substances.
S. Roberts, Hull—Improvements in steam-engines.
R. Hornsby, Spillgate Iron-Works, Grantham—Improvements in threshing ma-

SUBAQUEOUS ELECTRICAL CONDUCTORS.—Messrs. W. J. Macquorn Rankine, C.E., and Mr. John Thomson (of the East Indian Railway), have patented an improved method of laying electrical conductors, for submarine telegraphic communication. The patent contains various improvements in matters of detail; but the most important, perhaps, is the employment of the resistance of fluids forced by pumps through adjustable valves to regulate the speed of the drums and pulleys by which the cable is dropped. The inventors will thus save the labour of 20 or 30 men, enable one man to regulate the speed of the cable by opening and closing a valve, and render the whole operation, in great depths of water, incomparably safer, more certain, and more expeditious, as well as cheaper, than it is at present.

FIRE-BRICKS.—Mr. George Noble, of Pensher, Fence Houses, has recently patented an invention, by which it is proposed to do away with manual labour in the manufacture of fire-bricks made from ground clay, by passing it directly from the grinding mill to the machine, where it is made into bricks ready for the kiln, instead of adding water and making it into a paste, according to the present process. This operation will save the expense of drying flues and coils, now used for preparing bricks for the burning kiln, and will prevent any alteration in form of the wet brick by drying. The invention consists of a combination of hydraulic machinery, for compressing clay in a pulverised state into bricks, and for changing the position of the moulds in which the clay is compressed, so that they may fill and discharge themselves after compression. After the clay is formed into bricks, the sides and ends of the moulds recede, and leave them free, without any forcing, which effectually prevents all liability to fracture or damage. A machine with two moulds will produce from 2000 to 4000 per diem. The importance of fire-bricks in the various departments of industrial manufacture can scarcely be over-estimated; any improvement, therefore, is deserving consideration.

PATENT BRICKS.—Certain improvements have recently been effected in the form of bricks for drainage, sewerage, culverts, and other purposes. This brick, instead of showing a plain surface on each joint, presents a small goggle, or tooth-like, upon each bed, which butts upon the actual joint, and thus by covering the joint itself, the interstice is met by a resisting face. In circular work, either for shafts or sewers, the joints are radiated upon the same principle. By means of the patent brick, within the thickness of 10 in. the same purpose is accomplished in respect of hydraulic works, which would require the space of 13½ in. of the common brick now used, in three thicknesses, according to the customary method. Greater efficiency, on account of the size of the improved brick, will be attained, by the use of which a large amount of material will be saved, a great portion of which is usually cut to waste in breaking joint, which is so essential for the stability and securing of the work on the present principle, and a multiplicity of joints will be saved. The patent for the improved brick is taken out by Mr. Samuel Monk, engineer, Smethwick.

VULCANIZED INDIA RUBBER—NOVEL APPLICATION.—Among the patents taken out by Mr. Goodyear, in respect of the application of India rubber, is that of sheathing for vessels; on the grounds of its lesser cost, that it will not corrode, that it is as easily applied as copper, and that its durability is greater. When used in the construction of sails, it is found that they will not stiffen, nor will ice adhere. It is also proposed to be rendered available in the construction of ships' boats, and as framed for a pontoon raft is capable of supporting 50 persons. Shot plugs are made of this material on account of their easy adaptation to any hole. The patents further include the application of this substance in packing, paying seams, in the formation of buoys, for submarine armour, ships, letter bags, provision bags, water tanks, for tarpauling, clothing, buttons, &c.

SCREW PROPELLERS.—An improved construction of this important accessory of modern steam navigation has been patented by Messrs. Kenworthy and Greenwood, of Leeds. The improved propeller is constructed in three pieces, which is deemed to be an improvement upon the formation of the original screw, in one piece. In case of accident, by this arrangement the blade can be refitted in the event of displacement, being dovetailed upon the main shaft, upon which it can be set to any required pitch or angle; and, being entirely of wrought-iron, less liability of fracture exists. Capt. Williams, of the City of Dublin Steam Packet Company's ship, *Windward*, has also patented his improvements in the screw propeller. From the fact of the particular parts of this screw revolving in the water "end on," the inventor claims the advantage alluded to, as it has more propelling surface than ordinary screws, combined with the lesser diameter. A propeller of 9 ft. diameter will have 3 ft. of clearance in its centre, so as to allow the water to pass along the shaft. Moreover, its peculiar form leaves the third of its diameter as clearance on its centre, so that its propelling surface is carried out to its full diameter. By way of experiment, twelve passages were recently made with the old propeller, and twelve with Capt. Williams'. The twelve passages made by *The Times* averaged 15 hours 1 minute 5 seconds, by the old screw; and 13 hours 30 minutes worked by the new patent screw, thus effecting an average saving of time of 1 hour 31 minutes 8 seconds. With inventors of screw propellers, the chief desideratum sought is to secure the greatest amount of propulsion in a given space of time, and at the least possible cost of fuel, and wear and tear of machinery.

* Read at the British Association, Glasgow.—[To be continued.]

PARTNERSHIP.—The Senior Partner in a large Manufacturing Business in Birmingham having realised a competency in the concern, is about to retire, and there is, therefore, an OPENING for a PARTNERSHIP for a GEN- TLEMAN who can command a capital of £6000 or £8000, and who would devote the whole of his time and energies to the management of the warehouse department. The business is increasingly prosperous, and capable of still further extension. None but principals will be treated with, and unexceptional references will be required.—Apply to Mr. JULIUS PARTNOR, solicitor, Birmingham.

RAILWAY TRAFFIC RETURNS.

ENGLAND.—Subjoined are the traffic returns of the various English lines for the last week:—

	1855.	1854.
London and North-Western	£60,089	£54,775
Lancashire and Yorkshire	22,241	20,934
London and South-Western	16,573	14,189
London and Brighton	17,573	16,206
Great Western	28,011	22,993
North-Eastern	37,198	33,600
South-Eastern	25,747	19,492
Great Northern	23,673	22,078
Chester and Holyhead	7,220	6,065
Manchester, Sheffield, and Lincolnshire	9,377	8,761
Eastern Counties, Norfolk, and Eastern Union	23,281	22,502
Bristol and Exeter	6,703	6,417
East Lancashire	6,103	5,707
London and Blackwall	1,340	1,371
Lancaster and Carlisle	6,908	6,295
Midland	31,298	28,818
Oxford and Wolverhampton	4,007	3,509
Newcastle and Carlisle	3,438	3,441
Shrewsbury and Chester	2,944	2,185
South Wales	6,064	5,841
South Devon	2,568	2,761
South Yorkshire and River Dunn	2,350	1,766
Taff Vale	3,761	3,332
West Hartlepool Railway and Harbour	3,011	2,321
Total	£332,416	£324,006

SCOTLAND.—The returns on Scotch lines are:—

	1855.	1854.
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Caledonian	£11,516	£11,766
Edinburgh and Glasgow	5,918	5,953
Edinburgh, Perth, and Dundee	3,236	3,046
Glasgow and South Western	6,634	5,600
North British	5,542	4,642
Total	£32,646	£31,007

IRELAND.—The Irish returns are:—

	1855.	1854.
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Belfast and Ballymena	£ 858	£ 663
Dublin and Belfast Junction	1,172	1,066
Dublin and Kingstown	1,091	933
Dublin and Drogheda	1,728	1,513
Great Southern and Western	6,326	6,139
Midland Great Western	3,478	2,835
Ulster	1,382	1,192
Total	£16,238	£14,341

RAILWAY TRAFFIC.—The returns of railways in the United Kingdom for the week ending September 22 amounted to 435,367*l.*, and for the corresponding week of 1854 to 388,527*l.*, showing an increase of 46,840*l.* The gross receipts of the railways having their termini in the metropolis amounted for the week ending as above to 196,796*l.*, and for the corresponding week of last year to 173,808*l.*, showing an increase of 22,988*l.*

The increase on the Eastern Counties Railway amounted to 779*l.*; on the Great Northern to 1594*l.*; on the Great Western to 5018*l.*; on the London and North-Western to 5318*l.*; on the London, Brighton, and South-Coast to 1664*l.*; on the London and South-Western to 2388*l.*; and on the South-Eastern to 6254*l.* total, 23,010*l.* But from this must be deducted 32*l.*, the decrease on the London and Blackwall: leaving the increase, as above, 22,988*l.*

The receipts on the other lines in the United Kingdom amounted to 238,571*l.*, and for the corresponding period of 1854 to 214,719*l.*, showing an increase of 23,852*l.*, in the receipts of those lines, which, added to the increase on the metropolis lines, makes the total increase 46,840*l.*, as compared with the corresponding week of 1854.

The railway calls falling due in October amount to 501,266*l.* The total calls for the ten months of the present year are thus raised to 11,726,522*l.*, against 12,072,065*l.* in the corresponding period of last year, and 9,983,801*l.* in 1853.

AMERICAN RAILWAY CONSTRUCTION.—In the construction of the Troy and Greenfield Railway the application of machinery, aided by steam power, is about to be carried into effect on a very extended scale, more particularly in the formation of the tunnel. This line is 42 miles in length, and will connect the present railway from Boston to Greenfield with the Buffalo line. The country traversed is of a very rugged and uneven nature. The tunnel in which the experiment is proposed to be first made will pass through the Hoosack Mountain, which lies in the range of the Green Mountains. The prevailing quality of the rock, of which the Hoosack Mountain is formed, is composed of mica slate. The stratification, or pitch of the seams is nearly vertical, almost at right angles with the line of the railway through the tunnel. The length of the tunnel is 24,300 feet, rather exceeding 4½ miles, having an ascending gradient of 1 in 210, or about 25 feet in the mile in each direction. The eastern summit of the mountain rises 17-0 feet, and the western 1200. The tunnel will pass directly through the mountain, and will be 20 ft. in height, and about 24 ft. in diameter. The total contents of the tunnel is estimated at 390,000 cubic yards, including the quantity to be removed for the approaches. For the construction of the tunnel it is proposed, by machinery worked by steam power, to drive a heading through the mountain 8 feet in diameter, and by means of cross-cut drills to cut into the face of the rock transversely in sections, which, by the aid of gunpowder, will readily be displaced, the machinery in its progress removing and distributing the rock at either end as the work proceeds. Owing to the height of the mountain, it has been found inadvisable to sink shafts, either for the purposes of ventilation or to facilitate construction; recourse, therefore, must be had to artificial means to thoroughly ventilate the tunnel, which will be accomplished by the process of exhaustion. The inclination of the railway being from the ends upward toward the centre of the tunnel, complete drainage will be attained. The application of machinery in the construction of the great tunnel through the Green Mountains, upwards of 4½ miles in length, is an undertaking of no ordinary magnitude, since this tunnel will be longer even than the Box Tunnel, on the Great Western line. The successful application of machinery to the purpose of the formation of tunnels will materially diminish the cost of their construction, and should the practicability be once established, it will occasion the appearance of railways in localities which hitherto have been considered to be unapproachable, and enable districts to be penetrated which, under present circumstances, human labour would scarcely have dreamt of, or presumed to attempt.

NOVEL EXPERIMENT IN LOCOMOTIVES.—The great desideratum in the matter of locomotives is to find the best and cheapest manner of obtaining the motive-power. At the Boston Locomotive Establishment (U.S.) a 22-ton passenger locomotive is building as an experiment. In the generation of steam in the engine the plan of Mr. Latta in his steam fire-engine is adopted—that is, coils of pipe are placed one upon the top of the other, which contain water, and upon which pipes the fire is directly brought. It is intended to burn coal, and it is thought steam can be made in 10 or 12 minutes, while in other locomotives it requires a much larger period of time. Another novelty is, that the engineer is placed about the middle of the engine, and thus he will have an uninterrupted view of the road before him. The flames are to be placed behind the boiler. It is also stated, that whether the idea of burning coal in this engine succeeds or not, wood can be used at one-half the running expense of other locomotives. The engine will be ready in a month or two, when experiments to test the value of the improvements will be made.

RAILWAY ACCIDENTS.—We are glad to learn that a company is in progress of formation for carrying out the several ingenious inventions of Mr. G. H. Ingall, which have been designed for preventing every class of accident it is possible for man to have control over. The association, we understand, is likely to be a very influential one, and will be called the "Railway Accidents Prevention Company."

THE IRON TRADE.—"Ironmaster," in this day's *Worcester Journal*, says—"At the preliminary meeting of the trade, held on Thursday, at the New Inn, Handsworth, the price of bars was declared 9*l.* per ton; at last the buyers know what to do, and I hope there will be no more change for some time to come. There was a strong feeling with some strong men that 10*l.* should have been the figure, but I am happy to say there prevailed wisdom enough among the majority to keep within a reasonable limit. It should not be forgotten in fixing prices, that whenever our bars are above 8*l.* per ton the Belgians can command the Dutch market, and all available resources are put forward by the American makers to supply the consumers in their country. You can see that from an error of excess in price we force competition with other producers, and for a time, when once in operation, it will go on; hence, when our prices recede, and orders slacken, we have to contend against a power which we created in rashness. I hope and trust we may have no unpleasantness with them; the puddlers in some of the works have given notice for an advance of wages. If they will only consider that when bars have been selling amongst second-class makers at 7*l.* 10*s.* per ton, and that no reduction was made in their pay, I think they should wait till bars are 10*l.* before they insist on a rise; it would be fair that they should do it. Pig-iron is too dear for bars at 9*l.*, and this was the foundation for a desire to put bars at 10*l.*, but this will right itself; it is, of course, a question of supply and demand, and great efforts are being made to increase the make of pig; it is some years since so many pigs were made as are now being produced, and the stocks have been lower since the latter end of the year 1853. I hear many manufacturers say they are better off for orders than specifications: this is to be accounted for by the buyers getting well on the books of the sellers, fearing the advance would go beyond 9*l.* I hope there will be no countermand."

THE SIDE IRON TRADE.—The *Stockton and Hartlepool Mercury* of this day, in its weekly report, says—"Prices retain their advanced position, with every prospect of stability, if not of further advance, mixed numbers being 82*s.* 6*d.* per ton, nett cash. Orders are plentiful, foreign railway and home Government demands continuing unabated. Shipments continue to be made briskly, and coal remains at nearly the prices of three weeks ago. The only drawback to the promising prospects of the entire trade has been the strikes of a fortnight ago; but of the threatened strikes in the collieries nothing is now heard; and the misunderstanding at Messrs. Sanderson, Hopkins, and Co.'s Iron-Works, Middlesbrough, having been removed, it is anticipated that they will not become a permanent interruption, which, indeed, would be a subject of regret at this time. In one word, the trade is healthy."

The manufacture of soda on the Tyne, and the chemical trade generally, is recovering from the depression that for some time affected it. The following are the quotations of the Tyne-side manufacture of—Crystal soda, 5*l.* per ton; li-carbonic, 15*l.*; bleaching powder, 10*l.* per ton, delivered f.o.b.—*Sunderland Herald*. The annual consumption of coal by Manchester and Salford is estimated at 2,000,000 tons.

VALUABLE MINING MATERIALS.—FOR SALE, at BLACK CRAIG MINE, county of Kirkcubright, near Newton-Stewart, Scotland, an excellent 30 in. cylinder ROTARY CONDENSING ENGINE, 6 ft. stroke, 8 tons tubular boiler (two tubes), steam chest, 3½ ft. diam., and 17 ft. long, with all the necessary gearing for pumping and winding; 3 lifts of pumps (18 in. and 24 in.), in all 42 fms., with bucket and clock door, working and windbores, complete; a powerful crab winches; 80 fms. ½ in. winch-chain; 30 fms. ½ in., and 25 fms. ½ in. winch-chain; and a large quantity of rails, railway wagons, iron bucket rods, smiths and carpenters' shop furnishings, &c. Also, a powerful crushing machine, of the most approved construction (by Dodsworth), propelled by a water-wheel of 30 ft. diam., 2½ ft. breast, iron axle, centres, and rings; attached are 10 jiggering hutches (4 iron, 6 wood), almost new, in excellent working order. Also, one water-wheel, 12 ft. diam., 2½ ft. in. breast, iron axle, centres, rings, and wrought-iron arms; in connection with this wheel are two jiggering hutches, eight German rollers, and two of Bronston's slime cloth frames. There are also a great variety of other useful mining materials on the mine.—For further particulars, apply to Capt. WILLIAMS, Newton-Stewart; on the mine; or to the secretary, JOHN MACQUEEN, Old Jewry Chambers.

VALUABLE MINERAL PROPERTY IN SOUTH WALES, GLAMORGANSHIRE.—TO BE SOLD, in lots to suit purchasers, or TO BE LET ON LONG LEASES, the MINERAL PROPERTY of the "GNOLL" ESTATE, near Neath, consisting of COAL, from the highly bituminous to the Aberdare steam coal, with valuable deposits of IRONSTONE, BLACKBAND, FIRE CLAY, and BUILDING STONE of a superior character. The Vale of Neath Railway and Canal pass through three miles of the estate. There are stations of the South Wales and Vale of Neath Railways on the property, with direct communication with London, and there will be very shortly with the important port of Milford Haven. The South Wales Mineral Line will pass through a great portion of the south-east side of the property, and the whole of the minerals are within a moderate distance of the new docks at Briton Ferry and Port Talbot. A large amount of the purchase-money may remain on mortgage, at a moderate rate of interest.—Applications to treat for the whole, or any portion of this estate, must be made to W. BULLOCK WEBSTER, Esq., The Gnoll, Neath; or to Messrs. OSBORNE, WARD, and Co., solicitors, Bristol; of whom further particulars may be obtained.

MINING INVESTMENT, &c.—The large amount of capital invested, and the great want of facilities for conducting the sale and purchase of stock, has induced us to OFFER OUR SERVICES to capitalists and others, being in daily communication with practical men in all parts of the country, who have the means of obtaining the most correct information upon the principal mines in Devon, Cornwall, and Wales. There can be no doubt that mining securities afford to the capitalist a safe and profitable source of investment, many of which, by a careful selection, will ensure a return of from 15 to 20 per cent. for many years to come; others of a progressive character hold a promise of increased value, and of becoming a lasting and dividend property.

Messrs. FULLER and Co., 51, THREADENEE STREET, LONDON, respectfully TENDER THEIR SERVICES IN TRANSACTING ANY BUSINESS, or obtaining any information, connected with MINING, BANKING, or RAILWAY SECURITIES; and any orders confided to their care will receive the best attention. Office Hours from Ten till Five.

LIMITED LIABILITY ACT.—CENTRAL LONDON OFFICES.—PROMOTERS OF COMPANIES under this Act, or others REQUIRING CENTRAL OFFICES IN LONDON, or an experienced RESPONSIBLE AGENT there, to actively attend to their interests, are invited to communicate with Mr. JOHN SEWELL, Assoc. Inst. C.E. (Author of various Scientific and other Papers), 13, LOMBARD STREET, LONDON.

THE KINSON CLAY WORKS, POTTERIES, AND FIRE BRICK ESTABLISHMENT, NEAR VOOLE, DORSET, MANUFACTURERS of every description of SANITARY GLAZED SEWAGE PIPES, CLOSET PANS, FURNACE BLOCKS, FIRE BRICKS, GAS RETORTS, CRUCIBLES, &c. The completion of the Kinson Pottery places the proprietors in a position to supply builders and the trade generally with any quantities of the above description of articles, at moderate prices.

The pottery is situated about 1½ mile from the town and port of Poole. It is worked by steam-power, and the pipes are made by the most approved patent machinery, and will bear favourable comparison with any manufactured in the kingdom. The fire bricks have been tested, and are found fully equal in all respects to those manufactured at Stourbridge and Newcastle.

All articles are made from the clays and materials found on the estate. There is an inexhaustible quantity of all descriptions of Dorsetshire clay used for pottery purposes, which can be supplied to the Staffordshire, north country, and London markets upon favourable terms.

Lists of prices, and all other information, will be furnished upon application to Mr. T. W. GREEN, at the Works.

FOR DRAINING AND OTHER PURPOSES.—LEVELS OF FIRST-CLASS WORK, consisting of a 10 in. telescope, adjusted by rack, sun shade, parallel plate, mounted on tripod stand, or jointed legs, for use in a soil pit.—To be had of the maker, JOHN DAVIS, optician, Derby.

METROPOLITAN SCHOOL OF SCIENCE, APPLIED TO MINING AND THE ARTS. MUSEUM OF PRACTICAL GEOLOGY.

DIRECTOR—SIR RODERICK IMPEY MURCHISON, F.R.S., &c. During the Session 1855-56, which will COMMENCE on the 1st October, the following COURSES OF LECTURES and PRACTICAL DEMONSTRATIONS will be given:—

1. CHEMISTRY..... By A. W. HOFMANN, Ph.D., F.R.S.
2. METALLURGY..... By JOHN PERCY, M.D., F.R.S.
3. NATURAL HISTORY..... By T. H. HUXLEY, F.R.S.
4. MINERALOGY..... By W. W. SMYTH, M.A.
5. MINING..... By A. C. RAMSAY, F.R.S.
6. GEOLOGY..... By ROBERT WILLY, M.A., F.R.S.
7. APPLIED MECHANICS..... By G. G. STOKES, M.A., F.R.S.
8. PHYSICS..... By G. G. STOKES, M.A., F.R.S.

INSTRUCTION IN MECHANICAL DRAWING, by Mr. BIKES.

The fee for matriculated students (exclusive of the laboratory) is £30 for two years, in one payment, or two annual payments of £20.

Pupils are received in the Royal College of Chemistry (the laboratory of the school), under the direction of Dr. Hofmann, at a fee of £10 for the term of three months. The same fee is charged in the metallurgical laboratory, under the direction of Dr. Percy. Tickets to separate courses of lectures are issued at £2, £3, and £4 each.

Officers in the Queen's or the East India Company's service, acting mining agents and managers, may obtain them at half the usual charge.

Certificated schoolmasters, pupil teachers, and others engaged in education, are admitted to the lectures at reduced fees.

H. R. H. the Prince of Wales has granted two Exhibitions, and others have also been established.

For a prospectus and information, apply at the Museum of Practical Geology, Jermyn-street, London.

MERCANTILE, MINING, & AGRICULTURAL LABORATORY.

CONDUCTED BY MR. CROWDER, F.R.S., CONSULTING AND ANALYTICAL CHEMIST, 72, 104, SIDE, NEWCASTLE-ON-TYNE.

Late Lecturer on Chemistry in the Newcastle College of Medicine, and formerly Assistant in the Laboratory of the Highland and Agricultural Society.

Mr. W. CROWDER begs to inform such persons as are connected with Mercantile, Mining, or Agricultural pursuits, that he will be happy to perform ANALYSES and ASSAYS of every description, and to be CONSULTED upon subjects pertaining to SCIENTIFIC CHEMISTRY. A limited number of PRIVATE PUPILS are admitted to the laboratory on the following terms:—

Fee for 12 months' course of instruction, in one payment in advance..... £20 0 0

Fee for 3 months' payment in advance..... 6 0 0

Will shortly be published, **NOTES ON THE MINING DISTRICTS OF THE UNITED KINGDOM.** By J. W. ARUNDELL, Esq.

No. 1. CORNWALL. Part I.

The following are in preparation, and will appear serially:—

No. 2. Devonshire.

No. 3. Cornwall. Part II.

No. 4. Devonshire. Part II.

No. 5. Devonshire. Part III.

No. 6. Devonshire and Montgomery.

No. 7. Cornwall. Part IV.

No. 8. Flintshire.

The districts treated of in the succeeding numbers will be announced in due course.

Published by request of the Committee which successfully opposed the Rating of Mines Bill.

CRITICAL OBSERVATIONS ON THE HOUSE OF LORDS, and the THREE MEMBERS FOR CORNWALL, in reference to the late attempt to impose extra burdens on Mines, together with Statistics on the Inconspicuous of John Arthur Roebuck, Esq., M.P. for Sheffield, in a Speech delivered by Mr. T. BUNGEY, of Eym, to nearly 500 of the freeholders and miners of Bradwell, in North Devonshire, on Saturday, 25th August, 1855.

Any person sending a stamped envelope to the Courier office, Chesterfield, may have a copy gratis.

Just published, in One Volume, demy 8vo., 110 pages, illustrated by Twenty Maps, Diagrams, &c.,

FOUR LECTURES ON GEOLOGY AND MINING.

Read at Leeds, Hull, Bradford, Harrogate, &c. By GEO. HENWOOD, M.E. Forming a complete compendium of these subjects. Dedicated, by permission, to Sir CHARLES LEMOX, Bart., F.R.S., F.G.S., President of the Royal Cornwall Polytechnic Society, &c.

Published (for the author) at the Mining Journal office, 26, Fleet-street, London. Price, handsomely bound in cloth lettered, 2s. 6d.; by post, 3s.

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RAILWAY MORALS AND RAILWAY POLICY.

By HERBERT SPENCER, Author of Social Statics, &c. Forming Part 89 of the Traveller's Library.

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THE CIVIL ENGINEERS AND ARCHITECTS' JOURNAL for

October, price 2s., contains—The Jurors' Report on the Machinery in the Exhibition, Paris, by Mr. Fairbairn, with engravings; on the Relation between Revolving Alarms and Explosions in Coal Mines, by F. Dobson, B.A.; with numerous other papers and engravings. Published at the British and Foreign Patent Office, 19, Arundel-street, Strand.

THE PAUSILLIP LOTION—Nothing but the absolute certainty arising from undoubted testimonials, could induce us to draw the attention of our readers to an invention which, from its great importance to mankind, may raise doubts in the minds of some with regard to its efficacy; but the sudden relief, as if by a magic power, and the entire cure of rheumatism, that have been experienced from a few bottles of the "Pausillip Lotion" (which will be found advertised in another part of our Journal), and the gratitude evinced by them in their strongest recommendation of it to every one suffering in the same manner, dispel every doubt in the honesty of the inventor, and justify him to feel he is conferring a great benefit in recommending his wonderful remedy to the public, a recommendation in which we heartily join.

GLAMORGANSHIRE.—EXTENSIVE MINING PROPERTY AND IRONWORKS.

MR. THOS. THOMAS has FOR SALE, BY PRIVATE TREATY, the valuable and extensive MINERAL PROPERTY, comprising the BANWEN IRONWORKS and COLLIERIES, situated between the Neath and Swansea Valleys, consisting of about 573 acres of land, unusually abundant in ANTHRACITE COAL and IRON ORE, which crop out on the estate, and are capable of being worked at a small expense by patching and level, with the TWO BLAST FURNACES, STEAM-ENGINE, MACHINERY, GEAR, and APPARATUS, complete, WORKMEN'S COTTAGES, ARTIFICER'S SHOPS, about three miles of RAILWAY and TRAMWAY, and including about 2000 tons of RAISED MINE, a great portion of which is ready calcined.—For particulars and to view, apply to Messrs. LKWEILL and RANDALL, solicitors, Neath; or to Mr. THOS. THOMAS, auctioneer and valuer, Neath, Glamorganshire.

MR. JOHN H. CLEMENT, with regret has to announce, that owing to his not having received in due course the proper documents from the Board of Directors of the Merced Mining Company of Mariposa, County California, he will be UNABLE for some time to LAY BEFORE THE SHAREHOLDERS of the Nouveau Monde and Merced Companies his SCHEME for WORKING the MERCEDES MINES, late in the occupation of the Nouveau Monde Company, which scheme, if carried out, would result to the benefit of all the shareholders, or any parties contributing under the intended project.

The feasibility of the plan will be shown in a pamphlet intended to be published after receipt of the proper documents, securing the property to the trustees of the new scheme. That the property is valuable has been proved, both as regards its mines and the judiciously selected site of the reduction works, which are surrounded by a revenue district, the existence of which has been established beyond a doubt, both as regards quantity and quality of the ores obtainable to be reduced on royalty. 10, Gloucester-terrace, Church-lane, Kensington, Sept. 24, 1855.

BOOKKEEPER.—WANTED, a BOOKKEEPER, thoroughly conversant with the routine business of a counting-house. Preference would be given to a person who has been in the office of some extensive ironworks. Application to be made to Mr. HEATON, Staveley-works, near Chesterfield.—Sept. 19, 1855.

WANTED IMMEDIATELY, to proceed to BARCELONA, a COMPETENT MAN, to MANAGE a NASMYTH'S STEAM FORGE HAMMER; liberal wages will be given, and a married man preferred.—Address: THOMAS WRIGHT and Co., engineers, 5, George-yard, Lombard-street, London; or to THOMAS SAMSON, of Swansea.

WANTED, a GENTLEMAN to UNDERTAKE the MANAGEMENT of the COUNTING-HOUSE and FINANCE DEPARTMENT of large IRONWORKS (manufacturing and producing) in South Wales. To a person possessing a practical knowledge of such accounts, and capable of fulfilling all the requisite duties of such a situation, £500 per annum will be given as a commencement.—Applications (which will be considered strictly confidential), with testimonials, or references to qualified persons, stating age of the applicant, to be addressed to "Box 90," Post-office, Halifax.

WANTED.—A PRACTICAL MAN, who has had considerable experience in copper, tin, silver-lead, antimony, and gold mining, wishes to procure a SITUATION to SUPERINTEND a MINE or MINES, at home or abroad. The advertiser would have no objection to go abroad, to the Coast of Africa, or elsewhere, to explore for minerals.—Address, "V. T. H.," Mining Journal office, 26, Fleet-street, London.

TO COPPER SMELTERS, MANUFACTURERS, AND IMPORTERS OF ORES.—The ADVERTISER is anxious to ENGAGE HIMSELF to any one requiring his services. He fully understands the making of copper rollers, according to the latest improvements, including the finishing, &c.; copper smelting in all its branches, and especially the treatment of P. A. copper, in which he has had great experience. Would have no objection to enter into arrangements with any party intending to unite the copper roller branch to their present business, and afterwards to become their agent for the sale of them in the Manchester market. Can assay, purchase, &c. Would have no objection to go abroad.—Address, "Vox," Mining Journal office, 26, Fleet-street, London.

STAVELEY COLLIERIES, NEAR CHESTERFIELD.—WANTED, a PERSON to TAKE CHARGE of the UNDERGROUND and SURFACE SURVEYS. The qualifications requisite are—a thorough knowledge of land surveying, dialling, and the execution of finished plans. Testimonials as to character and ability will be required.—Apply to Mr. HEATON, Staveley Works; or to Mr. WOODHOUSE, Midland-road, Derby.

FOR SALE, BY PRIVATE CONTRACT, at GREAT ONSLOW CONSOLS MINE, an excellent 22 in. cylinder WINDING ENGINE, 10 feet stroke, with 9 tons boiler, complete.—For particulars and price, apply to WILSON FORSTER, Esq., 23, Temple-street, Liverpool; or GEORGE RICKARD, on the mine.

TO RAILWAY COMPANIES, CONTRACTORS, AND OTHERS.—ON SALE, a LOCOMOTIVE ENGINE, suitable for ballasting or mineral traffic, or for goods traffic on a line where the trains are light. The diameter of cylinder 14 in., length of stroke 20 in.; diameter of leading and driving-wheels 5 ft., trailing-wheels 3 ft. 6 in., all of wrought-iron, with cast-iron bosses (the leading and driving-wheels being coupled); copper fire-box, length 3 ft., width 3 ft. 5 in., height 3 ft. 8 in.; 121 brass tubes, 9 ft. long, 2½ in. diameter. The tender weighs 6 tons 1 cwt., and will contain 600 gallons of water. The engine and tender are both in fair working order. They may be seen on application to Mr. W. G. CHURCH, locomotive superintendent, Manchester, Sheffield, and Lincolnshire Railway, Gorton, near Manchester. Sept. 13, 1855.

TO IRONMASTERS.—ON SALE, a HORIZONTAL HIGH-PRESSURE STEAM-ENGINE, 18 in. cylinder, 4 ft. stroke, with 36 in. blast cylinder, suitable for blowing refineries; also, a 55 cwt. DRAWING-OUT HAMMER, the whole fitted complete, ready for work. A TYRE BENDING MACHINE, for railway tyres.—For further particulars, address Messrs. THOMAS PERCY and Sons, Highfields Foundry, Bilston.

ANTIMONY ORE, OR ANTIMONY MINE, WANTED.—Address, Messrs. SMITH and Co., ANTIMONY WORKS, William-street, High-street, Lambeth.

WEST CORNWALL MINING DISTRICT.—Nearly ready for publication, a GEOLOGICAL MAP of about 250 MINES between TRURO and PENZANCE. Plain, 21s.; Coloured, 26s.; Mounted, 30s.; Varished, 31s. 6d.; delivered in London carriage free.—To be had of Mr. R. SYMONS, land surveyor, Quay, Truro.

EAST INDIAN IRON COMPANY.

(Incorporated by Royal Charter.) THIRD CALL.—Notice is hereby given, that, in pursuance of a resolution of the Court of Directors, the proprietors of Class A, or preference shares, in the East Indian Iron Company are required to PAY a CALL of ONE POUND per share on each of their respective shares, on or before the 15th day of October next, at the banking house of Messrs. Smith, Payne, and Smith, 1, Lombard-street, in the City of London.

Notice is hereby further given, that interest at the rate of 5 per cent. per annum will be charged upon calls remaining unpaid after the day above mentioned; and that if default is made in payment of this call for one calendar month after the 15th day of October next, the shares in respect of which default is made will become liable to forfeiture, under the company's Deed of Settlement.

8, Austinfriars, London, Sept. 18, 1855. By order, G. E. COOPER.

SOUTH CORK COPPER MINING COMPANY.—The Committee for winding-up the affairs of this company having sold the mine, beg to remind those shareholders who have NOT YET SENT IN THEIR SCRIP that it is desirable they should DO SO FORTHWITH, in order that the accounts may be closed.

1, Field-court, Gray's Inn, Sept. 25, 1855. W. R. TURNER, Solicitor.

INNEY CONSOLS COPPER AND SILVER-LEAD MINING COMPANY (SOUTH PETHELWIN, CORNWALL).—Notice is hereby given, that the FOURTH HALF-YEARLY GENERAL MEETING of the shareholders in this company will be HELD at No. 26, Moorgate-street, in the City of London, on Thursday, the 4th day of October next, at One o'clock in the afternoon, on the general business of the company.

And notice is hereby further given, that at such general meeting aforesaid a resolution will be proposed, declaring any share or shares forfeited, under Art. XI. of the Rules and Regulations of the company, upon which 10s. per share shall not have been paid; and for the purpose of giving full effect and validity to such proposal and resolution, as aforesaid, all calls now in arrear and unpaid are hereby formally demanded.

Dated this 22d day of September, 1855, 26, Moorgate-street, London. THOMAS LEE, Purser.

TUNCROFT MINING COMPANY.—Notice is hereby given, that at a SPECIAL GENERAL MEETING of the shareholders of this company, held this day, the following resolution was unanimously passed:—

That the scrips numbered 17, 18, 19, 20, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892,

IN CHANCERY.—CAUSE PETITION UNDER THE COURT OF CHANCERY (IRELAND) REGULATION ACT, 1850.

PURSUANT TO THE DECREE OF THE COURT OF CHANCERY made in this matter, bearing date the 24th day of April, 1854, I will on Monday, the 5th day of November next, at the hour of One o'clock in the afternoon, at my Chambers, Inns Quay, City of Dublin, sell UP TO BE SOLD, BY PUBLIC AUCTION, to the highest bidder, the INTEREST under and by virtue of the LEASE, bearing date the 27th day of July, 1849, of and in all and every the mines of iron, ironstone, lead, copper, and all other ores, minerals, and fossils of what nature or kind soever; and also all veins, spits, and veins, and all other matters usually found and discovered in the earth, fit and proper for making any ware; and also all copper ore, and all mines, ores, minerals, and fossils, mineral and fossil substances whatsoever now being and already discovered, and now opened, or hereafter to be found or discovered, in, upon, under all that and those the town and lands of BARAVORE, situate in the barony of Rathfriland, parish of Rathfriland, in the county of Wicklow, together with all furnaces, forges, mills, workmen's or other shops, stables, or other erections and buildings thereon, and all ways, roads, and railways, for the use of the said mines.

Dated this 14th day of August, 1855. W. BROOKE.

For further particulars, rental, and conditions of sale, apply to MARK TOOMEY, solicitor, 12, North Cumberland-street, Dublin; to WILLIAM LEACH, Esq., solicitor, near Liverpool; or to CHARLES ODDIE, Esq., Fenwick Chambers, Fenwick-street, Liverpool.

PURSUANT TO A DECREE OF THE HIGH COURT OF CHANCERY, made in a Cause SOUTH MORSE AGAINST WILLIAM PENNELL AND OTHERS, the persons CLAIMING to be INCUMBRANCERS, or having INCUMBRANCES on or affecting certain collieries or mines, tract, seams, or veins of coal, or any part or parts thereof, are, by their solicitors, on or before the 1st day of November, 1855, to COME IN AND PROVE THEIR INCUMBRANCES, or CLAIMS, at the Chambers of the Vice-Chancellor, Sir William Page Wood, 11, New-square, Lincoln's Inn, in the county of Middlesex, or in default thereof they will be summarily excluded from the benefit of the said decree.

Summarily, the 10th day of November now next ensuing, at Twelve o'clock at noon, at the said Chambers, is appointed for hearing and adjudication upon the said incumbrances and claims.

HARRISON AND SCARBOROUGH, 6, Bloomsbury-square, Plaintiff's Solicitors.

Dated the 28th day of July, 1855.

DERBY.—TO IRONFOUNDERS, CAPITALISTS, &c.

That important FREEHOLD PROPERTY extensively and favourably known as the PHENIX FOUNDRY, NOTTINGHAM ROAD, DERBY, lately in the occupation of Mr. James Haywood, a bankrupt.

MR. ROWLAND BREAREY, WILL SELL, BY AUCTION, on Monday, the 15th day of October next, at the King's Head Inn, in Derby, at Four o'clock in the afternoon, TWO NEWLY-BUILT IRON FOUNDRIES, one 60 ft. long, by 64 ft. wide; the other 80 ft. long, 24 ft. wide, each 20 ft. high to beams, forming one entire moulding shop, well lighted and ventilated, with ample room to make castings of the largest dimensions for railway bridges, girders, and other large works, and capable of turning out 30 tons of castings per week; also, moulding shop for light work, and the undermentioned buildings—viz., 3 extensive fitting-shops, warehouses, model room, cupolas, engine-house, offices, and a substantial residence, suitable for an agent or manager. The purchaser will have the opportunity of creating for the valuable plant by valuation, which consists of a condensing steam-engine of 16-horse, with a wagon steam-boller 21-horse power, heat detector, gearing, and shafting, &c. Also, one blowing-machine, with its apparatus; 3 large chuck lathes and beds; 3 screw-cutting lathes; 1 double ditto; 1 large planing machine and bed; 3 drilling machines and beds; 1 large self-action power drilling machine; 1 double power lathe, with wood beds; 1 large graser and scourer; 1 large and powerful double iron crane, with blocks; 4 large wood and iron cranes of different powers and sizes; 1 large travelling crane, with traversing rails and apparatus, complete; 1 smaller ditto; and patent weighing-machines, with their foundations, &c.

The foundry, works, and yards cover nearly an acre of land, and are most advantageously situated, being bounded on three sides by the Derby Canal and the River Derwent, close to the Nottingham turnpike-road, and within 400 yards from the new mineral station of the Midland Railway.

The whole of this extensive manufactory and plant are in the most perfect working condition.

Further particulars and information may be obtained on application at the offices of Messrs. J. and F. BARBER, solicitors, Derby; or to the auctioneer, Derby, Sept. 13, 1855.

TO ENGINEERS, BOILER MAKERS, &c.—A very strong PUNCHING AND SHEARING MACHINE FOR SALE, will punch and cut 1 in. plate. Also, a very superior SELF-ACTING SLIDE LATHE, bed 16 ft. long, with break, centres 10 in. high, with face plates and top motion, &c., all complete. Also, in centre SLIDE RISE, to slide 20 in. long, &c. For particulars, apply to J. GOSWORTH, Albert Foundry, Neville-street, Leeds.

MINING INVESTMENT.—WEST ABERFFRWD.—TO BE SOLD, a very valuable MINE, situate in the heart of the best mining district in Galesburg. A shallow adit level has been extended for many fathoms, in the bottom of which there is a good course of ore now to be seen, and some tons of ore on the surface broken therefrom. A deep adit level has been commenced, and driven on the course of the ledge for 20 fms., the ledge yielding lead ore. To continue this level to the course of lead ore discovered in the shallow adit level was the object of the present company; but a great portion of the mine being held by working miners in the adjacent neighbourhood, whose means are not sufficient to carry on the trial with spirit, is the only cause for parting with the property. To inspect, and for further particulars, apply to the agent, PHILIP NICHOLLS, Gogin, Aberystwith.

PA. There is every facility for the working of water machinery, carriage light, and dues moderate.—March 5, 1855.

COLLIERY AND WORKS IN SOUTH WALES.—TO BE SOLD, BY PRIVATE TREATY, the PENCLAWDD COLLIERY, on the Barry Road, opposite to Llanelli, and two miles from the South Wales Railway. The mineral seams are held for long terms, at low royalties, and include several hundred acres. The colliery is completely won by a pit of 80 fms., with pumping engine of 60 in. cylinder, more than sufficient to command any future increase of water from the unworked district, having a range of two miles upon four workable veins. A short incline connects the colliery with the shipping wharves, where the only port for 14, per ton register on the vessel.

A balance machine, winding engine, and all necessary workshops and offices are attached to the colliery. Adjoining the shipping wharves are freehold lands, adapted for the erection of any kind of engineering works; and on part of which are now workmen's cottages, and works under lease.

The coal is of well-known bituminous quality. The colliery is well adapted for parties desirous of carrying on a large trade, which may be indefinitely extended by the formation of a branch to the South Wales Railway.

The proprietor will either sell the whole property, or will retain the lands, and grant a lease of the pit and the necessary erections and shipping wharves.—For particulars apply, by letter, to J. BENSON, Swansea.

ELIGIBLE IRONWORKS TO BE DISPOSED OF.—TO BE SOLD, OR LET, THE UNEXPIRED TERM OF AN IRONWORKS IN CUMBERLAND, comprising about 14 acres, held under a lease, at a nominal rent, having six years to run, consisting of a blast furnace, with blowing engine and hot blast apparatus; forges and mills for rolling bars, sheets, and boiler plates; and a tin-plate work, capable of producing 400 boxes per week; also, 11 workmen's and two excellent managers' houses. The forges have the advantage of both steam and water power, and the whole work is most eligible situated close to a railway, a branch of which goes into the work, and with every facility for the cheap supply of argillaceous ironstone, coal, and hematite ore. The above is in excellent condition, and may be immediately put to work at a very small expense.

Also, together or separately, a FREEHOLD FORGE AND ROLLING MILL, in the immediate neighbourhood of the above, consisting of a complete set of rolls for puddling and finished iron, Shingler's hammer, shears, &c., worked by a steam-engine, and capable of producing 50 to 70 tons per week.

Apply to Messrs. McKWAN AND AULD, accountants, Glasgow; Messrs. Wm. BIRD AND CO., London or Glasgow; or PETER CAMERON, Esq., Whitehaven.

EXTENSIVE ANTHRACITE IRON AND COAL WORKS IN SOUTH WALES TO BE SOLD, containing about 2000 acres of minerals. They are now in full operation, and comprise TWO BLAST FURNACES, extensive FOUNDRY and powerful BLAST, PUMPING AND WINDING ENGINES, all of which are in good working condition. The minerals are of most superior quality. The coal has a large sale for steam and melting purposes. There are good residences for a managing partner and agents, also a large number of workmen's cottages. A purchaser would be treated with on liberal and advantageous terms.—Further information may be had on application to Mr. THOMAS S. STRICK, Swansea; or to Messrs. CHURCH, 5, Bedford-row, London; and viewed by cards only.

ANTHRACITE COAL.—TO BE LET, for a term of years, all the valuable SEAMS OF ANTHRACITE COAL lying under the Farm of Cresswell, in the parish of Lawrence, county of Pembroke, containing upwards of 300 acres. The above coal is of superior quality, and conveniently placed for shipment, being situated on a branch of the Milford Haven, within a short distance of the terminus of the South Wales Railway.—For further particulars, apply to T. M. MANNING, Esq., 1, Lancaster-place, London; or Messrs. JAMES SWANSON, Esq., Hereford-street; or Mr. JAMES WILSON, mineral surveyor, &c., Underwood, near Hereford-street. Underwood, Sept. 26, 1855.

COAL FIELD IN MID-LOTHIAN.—TO LET, for such number of years as may be agreed on, the COAL FIELD OF INVERESK, seven miles from Edinburgh, containing a large extent of the great seam extending under the town, and of first-rate quality.

Access to Edinburgh and the neighbouring shipping ports is most convenient by the North British Railway, which intersects the field. The use of machinery capable of commanding the water will be given by the proprietor.—All other particulars will be afforded by JOHN GEDDES, Esq., mining engineer, Edinburgh.

FOREST OF DEAN COLLIERIES.—The Messrs. JAMES and HENRY HARRIS beg to inform their friends, colliery proprietors, and others, that they are prepared to FURNISH PLANS AND ESTIMATES, and SUPERINTEND THE ERECTION OF PUMPING OR WINDING ENGINES, or such other MACHINERY as may be necessary for WORKING EITHER COAL OR IRON MINES.

The Messrs. HARRIS will also be happy to give the best information in their power to persons about purchasing, or taking shares in, any coal works in the said forest—regular, or faulty, or liable to inundation from old workings, and whether there be a reasonable prospect or not of their ever realising a return for their outlay. Many persons have invested, and lost their capital simply for the want of a little truthful information, which is scarcely to be expected from sellers and getters up of schemes for the disposal of inferior, or worse than useless property.

Lydney, Gloucestershire; and Hanwell, Middlesex.

RAILWAY WAGONS.—WM. A. ADAMS AND CO., MIDLAND WORKS, BIRMINGHAM.

BROAD AND NARROW GAUGE COAL AND IRONSTONE WAGONS, IN STOCK—FOR SALE OR HIRE.

RAILWAY WHEEL AND AXLE WORKS.—GEORGE WORSDELL AND CO., WARRINGTON, MANUFACTURERS OF EVERY DESCRIPTION OF HAMMERED IRON, TYRES, AXLES, &c.

THE PERMANENT WAY COMPANY, holding a large number of PATENTS relating to the CONSTRUCTION AND REPAIRATION OF THE PERMANENT WAY OF RAILWAYS, are at all times ready to communicate on the subject, and to GRANT LICENCES for their USE.

From the facilities thus afforded to companies to negotiate for a number of inventions, much trouble and chance of litigation is avoided. The company undertake arrangements for bringing new inventions on the subject before the public, upon terms advantageous to the proprietors of patents.

Applications may be made to CHARLES MAY, F.R.S., the manager, or to 26, Great George-street, Westminster. WILLIAM HOWDEN, Sec.

MUNTZ'S PATENT SOLID ROLLED BRASS TUBES.—These are the only BRASS TUBES that are MALLEABLE when RED HOT, and are CHEAPER AND MORE DURABLE than any others. They continue to be extensively used in the steam boilers of the navy, also on several of the English and foreign railways, and are the only brass tubes used by the London and North-Western Railway Company.

G. F. Muntz's Patent Metal Company, having completed extensive works to meet the increasing demand, are now able to execute orders promptly. French Walls, near Birmingham, Aug. 24, 1855.

TO IRONMASTERS, MERCHANTS, CONTRACTORS, FOUNDRERS, &c.—Messrs. DAUNT AND MOFFAT, METAL BROKERS, 59, ST. VINCENT STREET, GLASGOW, OFFER THEIR SERVICES FOR THE PURCHASE AND SALE OF PIG AND MANUFACTURED IRON.

All orders carefully executed, and prompt shipments made.

TO COAL OR MINERAL OWNERS AND DEALERS.—THE BIRMINGHAM WAGON COMPANY is open to receive APPLICATIONS for the LETTING OF WAGONS ON HIRE.

Offices, 101, New-street, Birmingham.

TO ENGINEERS, MINING COMPANIES, AND ALL PARTIES USING STEAM POWER.—LOVELOCK AND FORSTER'S PATENT FLEXIBLE STEAM PACKING will be found CHEAPER and more ECONOMICAL than packing of any other description. Samples and testimonials on application.

Warehouse, 7, Dowgate-hill, Cannon-street.

TO ENGINEERS, MILLWRIGHTS, SHIPBUILDERS, &c.—W. BLACKETT, ENGINEER, CROSBY HALL CHAMBERS, BISHOPS-GATE STREET, LONDON, has FOR SALE, AND READY FOR DELIVERY, various ENGINEERING TOOLS, comprising large and small drilling and boring machines, self-acting screw-cutting lathes, hand lathes, planed iron beds and compound slide rules, shaping, planing, punching, and shearing machines, and other useful tools. Particulars forwarded on application.

TO ENGINEERS, MACHINE MAKERS, AND OTHERS.—CHAS. MACINTOSH AND CO., PATENTEES AND MANUFACTURERS OF THE VULCANISED INDIA-RUBBER, in all degrees of elasticity, recommend this material as capable of SUSTAINING THE ACTION OF HOT OR COLD WATER, GAS, STEAM, ACIDS, AND GREASE. It is used extensively for valves in marine and land engines, railway buffers and springs, washers for pipe joints, hose, and tubing, also for gas holders, acid pumps, alkali cisterns, &c. Articles, moulded or otherwise, made to any size or figure.—Address, 3, Cannon-street West, London; and Cambridge-street, Manchester.

TO ARCHITECTS, SLATE MERCHANTS, BUILDERS, AND OTHERS.—THE DIRECTORS OF THE MACHINO SLATE AND SLAB COMPANY having completed their arrangements for the REMOVAL of their SHIPPING PORT to CONWAY, for the convenience of vessels unable to lower their masts to pass the tubular bridge, are now PREPARED TO RECEIVE ORDERS for their justly celebrated SLABS AND SLATES, from the Ffestiniog vein, which for beauty of colour and durability are unequalled.

The slabs have been largely used in the construction of houses for Australia, and from the facility with which they are erected and removed, are well adapted for movable huts for men and horses at the proposed camps in England and Ireland.

All applications to be addressed to Mr. T. H. WHEELER, the resident director, at the company's offices, Conway, North Wales.

STATIONARY STEAM-ENGINES OF THE BEST QUALITY.—From 1 to 50-horse power, fitted with VARIABLE EXPANSION GEAR. These engines, which have been designed to combine great simplicity of parts with the utmost economy of action, are supplied with or without boilers, at the lowest possible rates; and erected, if required, in any part of the kingdom. General boiler and tank work carefully executed upon advantageous terms.—Apply to Messrs. WILLIAM YOUNG AND CO., engineers, Barnstable.

IMPORTANT TO LEAD SMELTERS.—THE INVENTOR IS PREPARED TO CONSTRUCT, upon liberal terms, a DOUBLE REVERBERATORY FURNACE, capable of making a SAVING of 50 per cent. FUEL over that of the best constructed furnaces in Europe; at the same time guaranteeing the general loss in smelting not to exceed 5 per cent.

The inventor, after 20 years' experience, both in England and various parts of the Continent, has discovered the method, in the regular course of smelting, and without any extra cost, of separating antimony from a certain class of silvery-lead ore, thereby rendering the lead free of all impurities, and, at the same time, the antimony in a marketable state.—All applications to be addressed to the inventor, Mr. ALFRED JENKIN, Eyam, near Bakewell, Derbyshire. One of the furnaces will be at work by the end of the present month. A descriptive notice of the invention appeared in the Mining Journal of July 14.

HALSEY'S PATENT CRUSHER AND AMALGAMATOR.—The machine is NOW IN OPERATION at ESSEX WHARF, ESSEX STREET, STRAND. GOLD ORES carefully TESTED on the following terms, including the use and distillation of mercury:—

Samples not exceeding 5 cwt.	£1 10 0
" " " 10 cwt.	2 0 0
" " " 1 ton	2 15 0
" " " 2 tons	3 15 0
" " " 3 tons	4 10 0
" " " 4 tons	5 0 0

Larger quantities by special agreement. Price of the machine complete, £200.

PATENT SAFETY FUSE.—THE GREAT EXHIBITION PRIZE MEDAL WAS AWARDED TO THE MANUFACTURERS OF THE ORIGINAL SAFETY FUSE, BICKFORD, SMITH, DAVEY, and PRYOR, who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a third serenade into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder.

This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate. Address.—BICKFORD, SMITH, DAVEY, and PRYOR, Tuckingmill, Cornwall.

SAFETY FUSE.—Messrs. WILLIAM BRUNTON AND CO., PEN-HALLICK, near REDRUTH, CORNWALL, MANUFACTURERS OF FUSE, of every size and length, as exhibited in the Great Exhibition of 1851, and supplied to the Royal Arsenal at Woolwich, the Arctic Expedition, and every part of the globe. Messrs. BRUNTON & CO. are at all times PREPARED TO EXECUTE UNLIMITED ORDERS for SUPPLYING FUSE direct from their own MANUFACTORY, upon warrant that it will prove equal to, if not better, than any to be procured elsewhere.

CANDLES AND TALLOW FOR MINES.—PALMER AND CO.'S PATENT PALM CANDLES, and PATENT OPERATIVE CANDLES, neither of which require snuffing, at prices below those of all other mining candles.

Wholesale agent, JOSEPH DUNSTAN, Truro, by whom a stock is kept on hand, and also of the ordinary mining candle. Delivered free of carriage when orders for 100 dozen and upwards are given.—Lemon Yard, Truro, May 23, 1855.

MINING.—PATENT PUMPING AND WINDING STEAM-ENGINES, MADE PORTABLE, AND MOUNTED ON BROAD WAGON WHEELS, TO BE LET ON HIRE, OR FOR SALE.—All interested in mining are invited to INSPECT MEDWIN AND HALL'S PATENT PORTABLE STEAM-ENGINES. (See the Reports of this Journal.)

Several of these engines are in stock, and ready for immediate delivery, of 4, 8, 10, 12, 16, 20, 25, and 40-horse power, adapted for mining and other purposes. They possess advantages of strength and simplicity over all other portable engines; and may be seen at Messrs. MEDWIN, HALL, and CO.'s, sole patentees and manufacturers, 92, 1 Blackfriars-road, London.

PUMPING MACHINERY, FOR AUSTRALIA, INDIA, CEYLON, SOUTH AMERICA, MEXICO, THE CONTINENT, &c.—All persons desirous of RAISING large or small quantities of WATER, for works of drainage or irrigation, dry docks, canals, coal-dams, water-works, &c., by horse, wind, or steam-power, should SEE GWYNNE AND CO.'S PATENTED MACHINERY for these purposes, being the most economical, efficient, simple, and durable, ever brought before the public. HYDRAULIC RAMS, WATER-WHEELS, STEAM-ENGINES (portable and fixed), with every information, obtained by applying to GWYNNE AND CO., hydraulic and mechanical engineers, Essex Wharf, Essex-street, Strand, London.

TO PATENTEES.—PATENTEES OF MECHANICAL INVENTIONS are invited to SEND MODELS, PLANS, &c., to JNO. H. SWAN, 63, ST. VINCENT STREET, GLASGOW, who has appropriated a large apartment for the EXHIBITION AND SALE OF PATENT INVENTIONS, as well as the VENDING OF PATENT RIGHTS.

Glasgow is the centre of a large iron, cotton, engineering, and general manufacturing district; and by the proprietors of these works J. H. SWAN is extensively patronised, so that he is warranted in expecting benefit to the patentees, if sufficiently supported to make the exhibition attractive.

NEW PATENT ACT, 1852.—MR. CAMPIN, having advocated Patent Law Reform before the Government and Legislature, and in the pages of the Mining Journal, &c., is now READY TO ADVISE AND ASSIST INVENTORS IN OBTAINING PATENTS, &c., under the NEW ACT.

The Circular Information, gratis, on application to the Patent Office and the Registrar, 156, Strand.

LEE STEVENS'S PATENT FURNACES comprise an established SYSTEM OF SMOKE PREVENTION AND ECONOMY OF FUEL, for all manufacturing purposes, from the smallest pan to the largest copper or boiler; and is remarkable for simplicity, cheapness, and facility of adaptation. Average saving of fuel, 20 per cent. Drawings of hundreds of furnaces in successful operation, testimonials, official reports, &c., may be seen at 1, Fish-street-hill, City.

OVERLAND ROUTE.—STEAM TO INDIA AND CHINA, &c.—VIA EGYPT.—THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS AND RECEIVE GOODS AND PARCELS for the MEDITERRANEAN, EGYPT, ADEN, BOMBAY, CEYLON, MADRAS, and CALCUTTA, by their mail packets leaving Southampton on the 4th and 20th of every month; and for CHINA and the STRAITS, by those of the 4th of the month.

For further particulars, apply at the company's offices, No. 122, Leadenhall-street, London; and Oriental-place, Southampton.

PATENT IMPROVED WIRE ROPE WORKS, MILLWALL, POPLAR.—A. J. HUTCHINGS, and CO., Sole Makers to the Lords of the Admiralty.—ROUND and FLAT ROPES, of every description, suitable for mining operations or other purposes, GALVANIZED or UNGALVANIZED, MANUFACTURED upon an IMPROVED PRINCIPLE, ensuring great pliability and durability. The superiority of these ropes over hempen ones, in point of strength, lightness, durability, and cost, is admitted by all who have tried them.

GUIDE ROPES, SIGNAL CORD, LIGHTNING CONDUCTORS, &c. Offices, 117, Fenchurch-street, London.

IMPROVED PATENT WIRE ROPE.—MR. ANDREW SMITH, the ORIGINAL INVENTOR OF WIRE ROPE, LIGHTNING CONDUCTORS, and SUBMARINE TELEGRAPHS, solicits the attention of the public to his IMPROVED PATENT MANUFACTURE, as the best and cheapest, having obtained his sixth patent since 1835.—Office, 69, Princes-street, Leicester-square, London.

HENRY J. MORTON AND CO.'S (No. 2, BASINGHALL BUILDINGS, LEEDS) PATENT WIRE ROPES, for the use of MINES, COLLIERIES, RAILWAYS, &c.; one-half the weight of hemp rope, at a one-third the cost; one-third the weight of chains, and one-half the cost—in all deep mines these advantages are self-evident. References to most of the principal colliery owners in the kingdom.

GALVANIZED SIGNAL CORDS AND KNOCKER LINES; will not rust or corrode, and not affected by the copper water in mines. Very strong, and not at all liable to break. Prices from 15s. per 100 yards.

PATENT ASPHALTED ROOFING FELTS, 1d. per foot. DRY HAIR BOILER FELTS, TO SAVE COAL. PATENT BOILER COMPOUND, for bad water. FAIRBANK'S WEIGHING MACHINES, of all sizes. GALVANIZED IRON ROOFING AND SPOUTING. MILNER'S FIRE-PROOF SAFES.

STOCK OF MINING AND RAILWAY STORES in Liverpool and London:—viz., OILS, GREASES, COTTON WASTE, SPUN YARN, WHITE LEAD, VARNISHES, &c.; and a very low price. Address, 2, Basinghall-buildings, Leeds. SOLE AGENTS for PROF. GLUKMAN'S ELECTRIC SIGNAL from RAILWAY GUARD to ENGINE DRIVER, and also for the use of COLLIERIES and MINES. N.B. Illustrated price list on application.

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FAIRBANK'S IMPROVED PATENT WEIGHING MACHINES, for the use of IRONWORKS, COLLIERIES, RAILWAYS, WAREHOUSES, STORES, &c. The most ACCURATE MACHINES in use, and the cheapest. MACHINES of all sizes, from 1 cwt. to 30 tons, for RAILWAY WAGONS, CARTS, or WAGONS.—For prices and all other information, apply to HENRY J. MORTON and Co., Galvanised Ironworks, 2, Basinghall-buildings, Leeds. Asphalted Roofing Felt, Boiler Felt, Galvanised Iron, &c., in Stock.

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NOTICE TO RAILWAY AND STEAM-BOAT TRAVELLERS.—ANDERTON'S HOTEL, 162, 164, and 165, FLEET STREET. BREAKFAST, with joint, 1s. 6d. BEDS, 10s. 6d. per week. DINNERS from Twelve to Eight o'clock; joint and vegetables, 1s. 6d.; with soup or fish, 2s. FURTLE SOUP and VEGETABLE DAILY. TABLE D'HOTE at Half-past One and Half-past Five, at 2s. Shillings each. A night porter in attendance.

SISAL CIGARS! SISAL CIGARS! SISAL CIGARS!—AT GOODRICH'S CIGAR, TOBACCO, and SNUFF STORES (Established 1790), 410, OXFORD STREET, LONDON (nearly opposite Hanway-street), BOX containing FOURTEEN FINE SISAL CIGARS for ONE SHILLING AND NINE-PENCE; post free, 27 stamps. None are genuine unless signed "H. N. Goodrich."

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HOLLOWAY'S PILLS, FOR THE CURE OF INDIGESTION AND GENERAL DEBILITY.—Copy of a letter from Miss Isabella Bows, King Edward-street, Grimsby, dated July 27, 1854.—To Prof. Holloway—Sir: With gratitude I am enabled to testify to the wonderful virtues your pills possess, having derived considerable benefit from using them. For 12 months I was a severe sufferer from general debility, indigestion, loss of appetite, and altogether a very deranged system. I resorted to various medicines without deriving any benefit; at last I was recommended to try your pills, and, after taking them for a short period, I was perfectly cured. Signed Isabella Bows.—Sold by all vendors of medicine; and at Prof. Holloway's establishments, 244, Strand, London; and 80, Maiden-lane, New York.

THE MINING SHARE LIST.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
5120	Alfred Consois (copper), Philhick	£11 10d	11 1/2	11	£13 10d	10 1/2
6930	Altgeed Consois Slate Quarry	2 1/2	2 1/2	2 1/2	0 3/4	0 1/2
1024	Baleswidden (tin), St. Just	11 1/2	11 1/2	11 1/2	12 1/2	10 1/2
5930	Bst Holes, Worthen, Salop	17 1/2	17 1/2	17 1/2	0 10/0	0 10/0
4993	Belford United (copper), Tavistock	26 6s 8d	26 6s 8d	26 6s 8d	7 12/0	0 10/0
5930	Black Craik (lead), Kirkcubright	5	5	5	0 5/0	0 5/0
200	Fottalack (tin, copper), St. Just	9 1/2	22 1/2	22 1/2	34 10/0	7 0/0
100	Carra Brea (copper, tin), Illogan	15	7 1/2	7 1/2	231 10/0	0 3/0
2048	Carnyorth (tin), St. Just	3	3 1/2	3 1/2	0 2/0	0 2/0
10000	Castle Slate Quarry, Dolwyddelan	3	3 1/2	3 1/2	0 2/0	0 2/0
200	Cefn Cwm Brwyno (lead), Cardiganshire	33	8 1/2	8 1/2	3 0/0	3 0/0
236	Conford (copper), Gwynnapp, Cornwall	73	7	7	9 0/0	3 0/0
256	Condurow (copper, tin), Camborne	20	122 1/2	102 1/2	58 0/0	3 0/0
125	Cwmystwith (lead), Cardiganshire	60	120	120	50 0/0	5 0/0
1024	Devon Great Consois (copper), Tavistock	1	420	400	460 0/0	9 0/0
1200	Dhuroda (copper), Ireland	1	1	1	873 4/0	3 0/0
179	Dolcath (copper, tin), Camborne	25 1/2	7 1/2	7 1/2	0 6/0	0 6/0
1200	Drake Wells (tin, copper), Calstock	14 1/2	7 1/2	7 1/2	8 0/0	4 0/0
800	East Darren (lead), Cardiganshire	32	7 1/2	7 1/2	243 0/0	2 10/0
128	East Pool (tin, copper), Pool, Illogan	24 1/2	16 1/2	16 1/2	0 5/0	0 5/0
1024	East Wheel Margaret (tin, copper)	5 1/2	12	12	5 3/4	0 10/0
1200	Eam Mining Company, Derbyshire	3 1/2	26 1/2	26 1/2	399 10/0	1 10/0
494	Fowey Consois (copper), Twardreath	40	30	30	44 7/0	1 0/0
2140	Foxdale, Isle of Man	71 10s 6d	30	30	5 4/0	1 0/0
820	Griffin (New Shares of 25s. each)	25	30	30	1 0/0	0 3/0
4448	General Mining Co. for Ireland (cop. lead)	3	2 1/2	2 1/2	23 0/0	0 7/0
2000	Goginan (lead), Cardiganshire, Wales	8	6	6	0 10/0	0 10/0
1024	Gomernath (copper), St. Cleer	13 1/2	23	23	0 10/0	0 10/0
9000	Great Grit (copper), St. Austell	1	2 1/2	2 1/2	0 10/0	0 4/0
13750	Great Polgooth (tin), St. Austell	1 1/2	2 1/2	2 1/2	0 2/0	0 2/0
6000	Great South Tolgus	2 1/2	5	5	0 5/0	0 5/0
26000	Great Wheel Vor (tin, copper), Helston	5	5	5	181 10/0	5 0/0
119	Great Work (tin), Gernoe	100	200	200	2 12/0	0 7/0
1024	Herdsfoot (lead), near Liskeard	8 1/2	2	2	1 18/0	0 5/0
6000	Hilington Down Consois (copper), Calstock	3 1/2	11	11	1 13/0	0 5/0
2000	Hilford (copper), near Tipperary	11	1	1	380 0/0	5 0/0
76	Jamaica (lead), Mold, Flintshire	31 13s 6d	1	1	2 0/0	0 4/0
2048	Kennegry (copper), Breage	6s 7d	1	1	2 0/0	0 2/0
1200	Kirkcubright (lead), Kirkcubright	9 1/2	1	1	1300 0/0	50 0/0
200	Lakey Mining Company, Isle of Man	100	1000	1000	0 2/0	0 2/0
5000	Lewis (tin, copper), St. Erth	31 6s	120	13 1/2	1048 0/0	2 0/0
100	Lisourne (lead), Cardiganshire, Wales	13 1/2	200	200	223 15/0	5 0/0
320	Machine and Slab Company	25	29	29	2 10/0	1 5/0
160	Malpas (New Shares)	18 1/2	22 1/2	22 1/2	1 17/0	0 15/0
6000	Marke Valley (copper), Cardigan	47 10s 6d	5 1/2	5 1/2	0 5/0	0 3/0
5000	Mendic Hills (lead), Somerset	3 1/2	2	2	0 17/0	0 7/0
6000	Merilyn (copper), Flint	21 1/2	13 1/2	13 1/2	1 13/0	0 2/0
20000	Mining Co. of Ireland (copper, lead, coal)	7	13 1/2	13 1/2	0 1/0	0 1/0
5000	Mantoes and Penrhyn	1 1/2	1 1/2	1 1/2	0 3/0	0 3/0
7300	Nantlle Vale (lead), Llanfyllin	1	1 1/2	1 1/2	44 0/0	1 0/0
470	Newcastle Mining Company, Co. Down	2 1/2	132 1/2	132 1/2	324 0/0	2 0/0
200	North Pool (copper, tin), Pool	32 1/2	70	70	249 10/0	4 0/0
140	North Roskear (copper), Camborne	10	29 1/2	29 1/2	5 6/0	0 15/0
6000	North Wheel Basset (copper, tin), Illogan	10 1/2	29 1/2	29 1/2	23 6/0	0 10/0
6100	Par Consois (copper), St. Blazey	1 1/2	13 1/2	13 1/2	3 10/0	0 10/0
500	Peak United (lead), North Derbyshire	7 1/2	8 1/2	8 1/2	1 13/0	0 10/0
1100	Perran St. George (cop. tin), Perranarabudoe	21 1/2	15	15	50 0/0	10 0/0
250	Phoenix (copper, tin), Linkinhorne	30	300	300	6 6/0	1 0/0
1000	Polbriech (tin), St. Agnes (Preferential)	15	45	45	30 4/0	4 0/0
500	Prederick Mines (tin), Uny Lelant	20 1/2	240	240	15 0/0	7 0/0
250	Rosewarne United (copper, tin), Gwinnear	24	315	315	380 0/0	8 0/0
256	South Cardigan (copper), St. Cleer	19	300	300	60 0/0	20 0/0
128	South Crinick (copper), St. Austell	19	300	300	2 11/0	0 6/0
9100	South Tamar (silver-lead), Beerferris	11 6s 6d	7 1/2	7 1/2	69 0/0	4 0/0
256	South Tolgus (copper), Redruth, Cornwall	16	70	80 85	320 10/0	17 10/0
248	South Wheel Frances (copper), Illogan	37 1/2	650	650	2 0/0	1 0/0
1024	Spearhead Consois (tin), St. Just, Cornwall	1 1/2	1 1/2	1 1/2	0 17/0	0 7/0
250	Spearhead Moor (copper), St. Just	14	2	4 1/2	888 0/0	8 0/0
4721	St. Aubyn and Grylls (cop. tin), Breage, St. Ives	18 3/4	100	100	11 10/0	3 0/0
94	St. Ives Consois (tin), St. Ives	10 1/2	10 1/2	10 1/2	4 11/0	2 0/0
1000	Stray Park and Camborne Vein (copper)	10 1/2	23 1/2	23 1/2	6 18/0	0 10/0
9000	Tamar Consois (silver-lead), Beeralton	4 1/2	23 1/2	23 1/2	8 5/0	0 5/0
6000	Tincroft (copper, tin), near Pool, Illogan	9	3 1/2	3 1/2	477 15/0	5 0/0
2048	Trevelan (silver-lead), Menheniot	8 1/2	4 1/2	4 1/2	403 15/0	2 10/0
572	Trevelan Consois (tin), St. Ives	11 1/2	24	24	0 1/0	0 1/0
96	Trevelan (copper), Gwynnapp, Cornwall	32 1/2	150	150	0 13/0	0 3/0
120	Trevelan (copper), Gwynnapp, Cornwall	10 1/2	10 1/2	10 1/2	55 0/0	5 0/0
4096	Trevelan (silver-lead), Boscawen, Cornwall	2 1/2	2 1/2	2 1/2	53 5/0	3 0/0
100	Trumpet Consois (tin), near Helston	95	215	215	2 5/0	0 2/0
400	United Mines (copper), Gwynnapp	40	215	215	0 13/0	0 5/0
1024	Wellington (copper, tin), Perranarabudoe	8 1/2	6	6	0 11/0	0 7/0
10000	Welsh Potosi (silver-lead), Talybont, Card.	5	6	6	4 7/0	0 10/0
2300	Widit	2 1/2	160	160	12 0/0	2 0/0
6000	West Basset (copper), Illogan	1 1/2	30 1/2	31	23 15/0	0 10/0
256	West Cardigan (copper), Liskeard	20	117 1/2	117 1/2	35 0/0	5 0/0
256	West Damsel (copper), Gwynnapp	210 7	117 1/2	117 1/2	6 0/0	0 10/0
1024	West Fowey (tin), St. Erth	7 1/2	450	470 476	1 0/0	0 10/0
200	West Wheel Seta (copper), Carnarvon	7 1/2	14	14 14 1/2	1 0/0	0 10/0
1228	Wheel Arthur (copper), Calstock	6 1/2	780	780	711 10/0	25 0/0
240	Wheel Bal (tin), St. Just	6 1/2	640	630	10 10/0	0 10/0
256	Wheel Basset (copper), Illogan	10 1/2	640	630	9 13/0	2 14/0
256	Wheel Huller (copper), Redruth	3 1/2	350	370	1 4/0	0 2/0
1024	Wheel Charlotte, Perranarabudoe	12	350	370	3375 10/0	8 0/0
250	Wheel Clifton (copper), Gwynnapp	47 14s	115	115	0 2/0	0 2/0
5700	Wheel Exmouth and New Granada	1	1	1	0 2/0	0 2/0
128	Wheel Friendship (copper), Devon	11 1/2	115	115	0 2/0	0 2/0
6000	Wheel James (iron, copper), Roche	17 4s	7 1/2	7 1/2	4 10/0	1 0/0
512	Wheel Jane (silver-lead), Lelant	3 1/2	37 1/2	37 1/2	30 0/0	2 0/0
430	Wheel Llewellyn (tin), Wendron	53	50	50	223 0/0	3 0/0
112	Wheel Margaret (tin), Uny Lelant	7 1/2	40	40	29 15/0	1 0/0
120	Wheel Mary Ann (lead), Menheniot	39	40	37 1/2	173 13/0	4 0/0
80	Wheel Oriel, St. Just, Cornwall	24 1/2	20	20	40 10/0	8 0/0
210	Wheel Reeth (tin), Uny Lelant	24 1/2	20	20	47 10/0	0 7/0
198	Wheel Seta (tin, copper), Camborne	107	200	200	254 10/0	8 0/0
520	Wheel Trevelan (silver-lead), Liskeard	8 1/2	22 1/2	22	10 2/0	0 7/0
1024	Wheel Trevelan (tin, copper), Gwinnear	12 1/2	4 1/2	4 1/2	0 12/0	0 4/0
4096	Wheel Wrey (lead), St. Ives	19 1/2	8 1/2	8 1/2	21 13/0	1 12/0
5000	Wicklow (copper)	1	1	1	0 8/0	0 8/0

FOREIGN MINES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
5000	Alten Mining Company (copper), Norway	£14 1/2	2 1/2	1 1/2	4 5/0	0 15/0
72000	Baden, Grand Duchy of	1	2 1/2	2 1/2	34 17/0	0 10/0
10000	Barra Imperial (gold), Brazil	1	150	150	0 5/0	0 5/0
2048	Burra Barra (copper), South Australia	1	67	64 68	73 12/0	4 0/0
12000	Cobre Copper Company (copper), Cuba	40	1	1	0 1/0	0 1/0
100000	Colonial Gold, Australia	1	20	18 20	4 18/0	1 0/0
10000	Copapo Mining Company (copper), Chili	16	15	13 15	0 0/0	0 0/0
20000	General Min. Assoc. (iron, coal), Nova Scotia	40	1	1	0 0/0	0 0/0
10000	Linares (lead), Pozo Ancho, Spain	3	8 1/2	7 1/2	0 2/0	0 2/0
10000	Lusitanian (of Portugal)	1	2 1/2	2 1/2	0 2/0	0 2/0
103814	Maricopa and New Granada	1	13	13	0 2/0	0 2/0
2000	Obornhof (lead), Nassau	1	13	13	0 2/0	0 2/0
25000	Penninsular Mining Company	1	13	13	0 2/0	0 2/0
10000	Pontgibaud (silver-lead), France	20	16	15 16	1 0/0	1 0/0
7000	Royal Santiago (copper), Cuba	12 1/2	4 1/2	3 1/2	33 0/0	1 5/0
104000	San Fernando (silver-lead), Linares	1	28	26 28	29 17/0	2 0/0
11000	St. John del Rey (gold), Brazil	1	3 1/2	3 1/2	1 16/0	0 4/0
43174	United Mexican (silver), Mexico	28 1/2	3 1/2	3 1/2	0 9/0	0 9/0
70000	Waller (gold), Goodland Co., Virginia	1	1	1	0 9/0	0 9/0
20000	Mexican and South American Smelting Co.	9	6 1/2	6 1/2	6 7/0	0 7/0
185676	North British Australasian	1	1	1	0 8/0	0 8/0

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
70000	Adelaide Land and Gold Comp.	2	2 1/2	2 1/2	0 0/0	0 0/0
25000	Almaden (silver-lead), Spain	2	2 1/2	2 1/2	0 0/0	0 0/0
50000	Chancellorville Freehold	1	1	1	0 0/0	0 0/0
45000	Chalons Mining Company	1	1	1	0 0/0	0 0/0
120000	Gladbach (zinc) Rhenish Pruss.	1	1	1	0 0/0	0 0/0
20000	Iberian (silver-lead), Spain	1	1	1	0 0/0	0 0/0
12000	Jamaica (copper)	1	1	1	0 0/0	0 0/0

MINES WHICH HAVE SOLD ORES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
1024	Aberdovey (lead), Merioneth	2 1/2	—	—	—	—
3600	Altarnun Con. (tin, cop.), Altar	3 1/2	7	—	—	—
200	Angieson Coal Company	7	—	—	—	—
940	Balmcon Con. (tin), Uny Lelant	3 1/2	3 1/2	—	—	—
4000	Baleswidden United	3	—	—	—	—
12000	Ballygonnec (lead), Wicklow	—	—	—	—	—
4000	Ballyvaughan, Co. Clare	£1 12	—	—	—	—
5000	Barytes Company of Ireland	—	—	—	—	—
3000	Basset Grass United (cop.), Kea	3	2 1/2	2 1/2	—	—
4000	Bedford Consols	3a	—	—	—	—
508	Bell and Llanarth, Gwynnapp	11	1 1/2	2 1/2	—	—
1000	Bolling Well (copper)	10	17	—	—	—
4096	Boringdon Consols, Plympton	4 1/2	—	—	—	—
240	Boscawen (tin), St. Just	20	6 1/2	—	—	—
433	Bottle Hill (copper), Plympton	4 1/2	—	—	—	—
120	Britannia, Llanarmon	£7 10 6d	1 1/2	—	—	—
4000	Bromford (lead), Wales	18a 3d	—	—	—	—
100	Brynford Hall (lead), Flint	20	6 1/2	60	—	—
140	Bryntall, Llanarth, Llanarth	—	—	—	—	—
420	Budnick Consols (tin), Ferness	2 1/2	—	—	—	—
6400	Buller and Bassett United	1 1/2	5	—	—	—
2000	Bwlch (sil.-lead), Cardiganshire	4	6	—	—	—
9200	Cae-rhyn (gold), Merioneth	—	—	—	—	—
1000	Cae-rhyn, Cardiganshire	10a 6d	—	—	—	—
1024	Caerphilly & Co. (tin), Caerphilly	—	—	—	—	—
5000	Callington (id. cop.), Callington	3	1 1/2	—	—	—
3204	Calstock Consols (copper)	6 1/2	5	—	—	—
2500	Calstock Copper (tin and cop.),	24 17	—	—	—	—
1000	Camboon Copper	3	—	—	—	—
6000	Cadwaladr Mawr (lead),	—	—	—	—	—
1024	Cardron Consols, St. Cleer	6 1/2	8	8 1/2	9	—
229	Carroll, Newlyn	25	15 1/2	10 1/2	—	—
50000	Caronvanshire Slate	—	1 1/2	—	—	—
3000	Caroline Wheel Prosper	2	5	—	—	—
—	Carreg-lara (cop. lead), Salop.	—	—	—	—	—
1024	Carvantal	—	4 1/2	5	—	—
6100	Carvath United	2 1/2	3	3 3/5	—	—
4096	Castle Dinas (tin), St. Columb.	2 1/2	—	—	—	—
6000	Cayan, North Wales	22 3	2 1/2	—	—	—
2600	Clara (lead), Cardiganshire	£1 5 6	1 1/2	—	—	—
—	Cliff & W. (tin, cop.)	1	17 1/2	—	—	—
8000	Clowance Wood	—	—	—	—	—
2000	Cod Mawr Pool (lead), Llanrwst	6 1/2	25	—	—	—
1000	Collocambe	12	42	—	—	—
15000	Conemara, Galway	—	—	—	—	—
2510	Cook's Kitchen, Illogan	£15 18 9	3	—	—	—
—	Cooheer	8	—	—	—	—
1055	Cradock Moor (cop.), St. Cleer	8	25	30	—	—
000	Craig-y-Wydd (lead), Llanrhaidd	8 1/2	—	—	—	—
12800	Cross-hill and Tees Head	1 1/2	1	—	—	—
6400	Crow Hill, St. Stephen's	1 1/2	—	—	—	—
9000	Cubert (silver-lead), Cornwall	2 1/2	—	—	—	—
1000	Cwm Dareslee	—	—	—	—	—
6700	Cwmlydy Zeck & Green Lake	3 1/2	1 1/2	—	—	—
1000	Cwm Erfin (lead), Cardiganshire	—	—	—	—	—
3000	Dalriew (cop. lead), Brecon	23 6 1/2	7 1/2	—	—	—